PROPERTY OF
SEATTLE, WASH.

Do You Patronize Our Advertisers?

SOUTHWESTERN MEDICINE

VOLUME VII OCTOBER, 1923 No. 10

Official Organ of the New Mexico Medical Society, Arizona State Medical Association, El Paso County (Texas) Medical Society and the Medical and Surgical Association of the Southwest

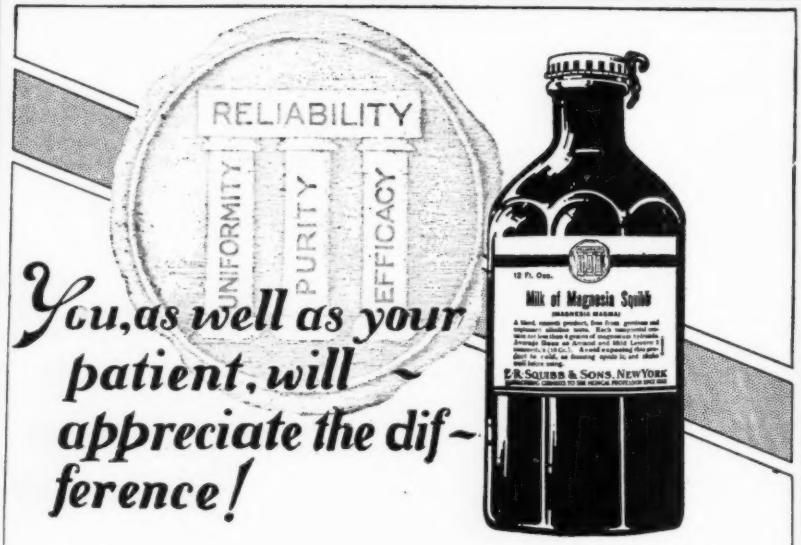
For Table of Contents—See Advertising Section Page 1

Diazyme Glycerole

Prepared from the fresh pancreas gland; containing its starch-converting enzyme (amylopsin) in a potent form in association with soluble constituents of the gland---practically free from trypsin and lipase.

This preparation supplies in an agreeable, active form the peculiar ferment which effects the converson of farinaceous foods into a soluble and assimilable form.

Fairchild Bros. & Foster
NEW YORK



You, as well as your patient, will appreciate the difference!

SQUIBB'S MILK OF MAGNESIA

THE usefulness of Milk of Magnesia depends upon the insoluble suspended magnesium hydroxide it contains. The value of magnesium hydroxide is chiefly due to its acid neutralizing properties.

Strong alkalies are also capable of neutralizing acids, but in concentrated form are destructive to all living tissues and even in weak solutions they dissolve the superficial mucous surfaces, and soften the more resistant tissues.

Magnesium hydroxide is the one alkaline hydroxide that is non-caustic and non-poisonous. Due to its insolubility, it is only faintly alkaline but is a reservoir of latent alkalinity, readily freeing this reserve in the presence of acids to neutralize and unite with them.

Milk of Magnesia is in consequence the ideal neutralizing agent for internal use. It is entirely free from the objectionable characteristics of the alkalies, yet is effective in counteracting acidity. Milk of Magnesia is soothing to the mucous membranes and is one of the most pleasant and effective of the mild laxatives.

SQUIBB'S **Milk of Magnesia** will do all that magnesium hydroxide can do. It is a superior product made by a precipitation process which insures a pure, smooth and clean preparation. SQUIBB'S **Milk of Magnesia**, due to its extreme purity, is unusually palatable and free from the objectionable alkaline taste that sometimes interferes with its broader use in the home. The new 4-ounce size of SQUIBB'S **Milk of Magnesia** makes a convenient package for the office, the home, or the traveller's bag.

E·R·SQUIBB & SONS, NEW YORK

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858.

Southwestern Medicine

PUBLISHED MONTHLY

VOL. VII. OCTOBER, 1923 No. 10

TABLE OF CONTENTS

HISTORY OF MEDICAL FEES 351
Dr. D. E. Smallhorst, El Paso, Texas.

PHYSICIAN AND PATIENT 356
Dr. H. S. Bennett, Ft. Bayard, N. M.

A TECHNIC FOR THE REMOVAL OF THE TESTICLE AND EPIDIDYMIS FOR EARLY TUBERCULOSIS OF THIS STRUCTURE 363
Dr. Chas. S. Vivian, Phoenix, Arizona.

ELECTRIC OPHTHALMIA 365
Dr. S. A. Schuster, El Paso, Texas.

THE BIOLOGICAL PROTECTIVE FUNCTION OF THE SKIN 367
Dr. Will Wilkinson, Phoenix, Arizona.

SOMNOFORM 372
Dr. H. S. Safford, El Paso, Texas.

FOCAL INFECTION AND THE NECESSITY OF COOPERATION BETWEEN THE MEDICAL AND DENTAL PROFESSIONS IN ITS TREATMENT 374
L. D. Cary, D. D. S., Douglas, Arizona.

THE VALUE OF X-RAY EXAMINATION IN PULMONARY DISEASE 376
Dr. W. S. Larrabee, El Paso, Texas.

THE PHYSIOLOGY OF REST IN PULMONARY TUBERCULOSIS 378
Dr. R. B. Homan, El Paso, Texas.

A CASE OF PYELITIS WITH ANOMALY OF THE KIDNEY 380
Dr. W. R. Jamieson, El Paso, Texas.

EDITORIAL AND NEWS 381-398
Medical and Surgical Association of the Southwest; St. Luke's Home (Phoenix) Improvements; Dr. Guido Ranninger; Personals; El Paso Lounty Medical Society; Difference Between Investing and Speculating; Maricopa County (Ariz.) Medical Society; Cochise County (Ariz.) Medical Society; Chaves County (N. M.) Medical Society; McKinley County (N. M.) Medical Society; Tuberculosis Preventorium in Arizona Correspondence; Personals and News.

Elastic Hosiery

Abdominal Supporters

made to order from fresh, live rubber, by competent workmen, giving you a perfect fit and fresh durable goods. Also Office Furniture and Dressings. An Up-to-Date Stock at right prices.

KENISTON & ROOT

418 W. Sixth Street Los Angeles, Cal.

PROFESSIONAL DIRECTORY SECTION

Physicians and Surgeons in Limited Practice in Arizona, New Mexico, El Paso, and Southern California, classified by cities and specialties including advertisements of Hospitals, Sanatoria and Clinical Laboratories of the same region.

EL PASO, Texas

INTERNAL MEDICINE

Duncan, E. A.—610 Martin Building. Internal Medicine exclusively.

Garrett, Franklin D.—Practice limited to Diseases of Stomach and Intestines and Related Internal Medicine. Two Republics Life Bldg., El Paso, Texas. Hours 10-12 and 2-4 by appointment.

Smallhorst, D. E.—404 Roberts-Banner Building. Diseases of the Stomach and Intestines.

Werley, G.—401-2 Roberts-Banner Building. Diseases of the Heart.

GENERAL MEDICINE

Miller, F. P.—Suite 514 Martin Building. General Medicine and Surgery.

EYE, EAR, NOSE AND THROAT

Britton, James M.—Practice limited to Eye, Ear, Nose and Throat. 502 Two Republics Bldg.

Von Almen, S. G.—414 Mills Building. Practice limited to Diseases of the Eye, Ear, Nose and Throat.

NEUROLOGY

McChesney, Paul Ely—524 Mills Building. Neurology and Psychiatry.

DISEASES OF CHILDREN

Rawlings and Leigh—404 Roberts-Banner Building. Practice limited to Diseases of Children and Obstetrics.

RADIOLOGY

Cathcart and Mason—311 Roberts-Banner Building. Practice limited to X-ray and Radium.

Drs. Larrabee & Jones–Roberts-Banner Building and Two Republics Building. X-ray Laboratory and Electro-Therapy.

SURGERY AND GYNECOLOGY

Brown and Brown—Suite 404, Roberts-Banner Building.

Deady, H. P.—First National Bank Building. Special attention given to Surgery and Gynecology.

Gambrell, J. H.—414 Two Republics Building. Special attention to Surgery and Gynecology.

Rogers, E. B.—Suite 606-616, Martin Bldg. Special attention to surgery.

Witherspoon, Louis G.—314 Roberts-Banner Building. Plastic Surgery.

Vance, James—313-4 Mills Building. Practice limited to Surgery.

UROLOGY

Lynch, K. D.—414 Mills Building. Genito-Urinary Surgery. Hours, 11 to 12:30. Phones Main 995 and Main 6501.

Wright, Burnett W.—921 First National Bank Building. Urology and Dermatology.

LOS ANGELES, California

DERMATOLOGY

Scholtz, Moses — 718 Brockman Building, Seventh and Grand Ave. Phone Main 448; Res. Phone 598874. Practice limited to Diseases of the Skin.

SURGERY

Wallace, Alexander—Suite 502, Junior Orpheum Building, 815 So. Hill Street. General Surgery.

INTERNAL MEDICINE

Thomas, Roy—523 W. Sixth St., Pacific Mutual Building. Internal Medicine.

NEUROLOGY

Kern, W. B.—Brockman Building, Los Angeles. Nervous and mental Diseases. Phones: Office, Metropolitan 4539; residence, 567-556. Announces his return from a three months' stay in Europe in attendance upon the clinics of Vienna, Paris and London.

UROLOGY

Rosenkranz, H. A.—1024 Story Building. Practice limited to Urology and Dermatology.

PHOENIX, Arizona

DISEASES OF THE CHEST

Holmes, Fred G.—Practice limited to Diseases of the Chest. Office 219 Goodrich Building.

EYE, EAR, NOSE AND THROAT

Bailey, H. T.—Announces the removal of his office from the Physicians Building to 323 Ellis Building. Practice limited to eye, ear, nose and throat.

INTERNAL MEDICINE

Brown, Orville Harry—Special attention to Asthma. Office, 430 N. Central Ave.

RADIOLOGY

Watkins, W. Warner, and Mills, Harlan P.—With Pathological Laboratory, Goodrich Building. General x-ray diagnosis and radiotherapy (radium and x-ray). Clinical laboratory in conjunction.

Waite's Laboratory

Laboratory Diagnosis Autogenous Vaccine, Squibbs Biologics, Neosalvarsan.

Mailing Address, Box 63
522 Roberts-Banner Building
EL PASO TEXAS

PROVIDENCE HOSPITAL

A GENERAL HOSPITAL

Young ladies wanted for Training School For information address

SUPERINTENDENT,
PROVIDENCE HOSPITAL,
El Paso, Texas

Turner's Clinical Laboratory

GEORGE TURNER, M. D.,
Director

Essential laboratory procedures in bacteriology, pathology, serology and chemistry are given prompt and conscientious attention.

Metabolic rate determination made according to the Benedict method.

913-15 First National Bank Building
EL PASO, TEXAS

The El Paso Pasteur Institute

Fifth Floor Martin Building

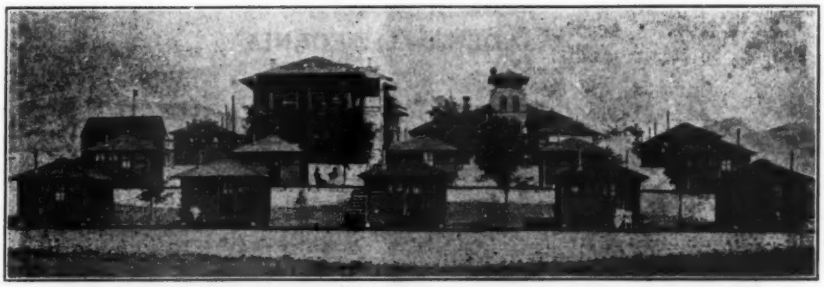
An institution for the preventive treatment of rabies. Conducted upon strictly ethical principles and the technique as outlined by Pasteur rigidly adhered to.

No patient treated here has ever developed the disease.

Treatment lasts twenty-one days.

B. M. WORSHAM, M. D., President.
HUGH S. WHITE, M. D., Sec'y-Manager

Albuquerque Sanatorium



Located in the heart of the great Southwest—the Land of Sunshine. Average annual rainfall less than 7 inches. Altitude moderate. On the main line of the Santa Fe.

The open-air, hygienic treatment of Tuberculosis is supplemented by artificial Pneumothorax and X-ray Therapy under the direction of a staff of 5 physicians trained in Internal Medicine. Special Facilities for Sun Baths.

Private porches, baths, bungalows, and modern, fire-proof buildings.
On request, information will be given concerning accommodations available.

W. A. GEKLER, M. D., Medical Director

A. L. Hart, M. D. H. P. Rankin, M. D. B. J. Weigel, M. D.

THE HOMAN SANATORIUM

For the Treatment of Tuberculosis

EL PASO, TEXAS

Descriptive Booklet on Request

Telephone 1616

LAS ENCINAS

PASADENA, CALIFORNIA

A Sanatorium for the Treatment of General and Nervous Diseases

LAS ENCINAS

Climate ideal, cuisine excellent, outdoor recreation.

Located in the foothills of Sierra Madre mountains, surrounded by a 20-acre grove of live oaks. Central building and private cottages with modern conveniences. Hydrotherapy, Electrotherapy, Baths and Massage. Physicians and nurses in constant attendance.

BOARD OF DIRECTORS:

Norman Bridge, M. D.; H. C. Brainerd, M. D.; W. Jarvis Barlow, M. D.; F. C. E. Mattison, M. D.; Stephen Smith, M. D.

Write for beautiful illustrated booklet.

STEPHEN SMITH, Medical Director
Las Encinas, Pasadena, Calif.

NOVARSENOBENZOL BILLON

NEOARSPHENAMINE

Originators
LES ETABLISSEMENTS POULENC FRERES, Paris

Sole licensees to manufacture in the U. S. A.
POWERS-WEIGHTMAN-ROSENGARTEN CO., Philadelphia

The American production is identical with the French. Orders repeated with increasing quantities, emphasize the unqualified approval of Novarsenobenzol Billon since its re-introduction into the United States.

CAN BE SECURED FROM YOUR SUPPLY HOUSE OR DRUGGIST

BABY'S OTHER MOTHER

D e n n o s Food — for babies, mothers, aged people and invalids. Samples on request.

Doctor -

Have you a patient?

among nursing mothers who l a c k s sufficient quantity of milk? Whose quality of milk is by no means rich enough in vital food elements to properly n o u r i s h her babe?

DENNOS, the milk modifier, taken by the mother, combined w i t h fresh milk, supplies a highly nourishing diet in an easily digested form. Through the use of Dennos Food, many mothers have been able to nurse their babies when bottle feeding would otherwise have been necessary.

DENNOS FOOD

DENNOS FOOD COMPANY, PORTLAND, OREGON

SOUTHWESTERN SURGICAL SUPPLY COMPANY

320 TEXAS STREET, EL PASO, TEXAS

X-Ray Apparatus and Supplies
High Frequency Machines
High Pressure Sterilizers
Hospital Equipment

Surgical Instruments
Rubber Gloves
Ligatures
Abdominal Belts, trusses, etc.

Mail Orders Given Special Attention

Calcreose

In Bronchitis and Tuberculosis

Calcreose is particularly suitable as an adjunct to other remedial measures. **Calcreose** contains 50% creosote in combination with calcium. **Calcreose** has all the pharmacologic activity of creosote but is free from untoward effects even when taken in large doses for long periods of time.

Sample 4 grain tablets supplied to physicians upon request.

THE MALTBIE CHEMICAL CO., NEWARK, N. J.

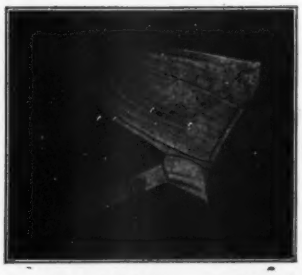
Hospital Supplies
Physicians' Equipment
Surgical Instruments
X-Ray Apparatus

R. L. SCHERER & CO.

205-9 Flood Building, San Francisco
736 S. Flower St., Los Angeles

Trademark Registered **STORM** Trademark Registered

BINDER AND ABDOMINAL SUPPORTER
(PATENTED)



FOR MEN, WOMEN and CHILDREN

For Ptosis, Hernia, Obesity, Pregnancy, Relaxed Sacro-Iliac Articulations, High and Low Operations, Floating Kidneys, Etc.

Ask for 36-page Illustrated Folder

Mail orders filled at Philadelphia only---within 24 hours

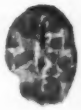
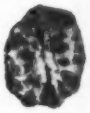
KATHERINE L. STORM, M. D.
Originator, Patentee, Owner and Maker
1701 Diamond Street PHILADELPHIA

25% Bran
Hidden in Flakes of Rolled
Whole Wheat

Pettijohn's solves two problems for you. 1—How to make bran inviting. 2—How to make whole wheat popular.

It is rolled soft wheat—the most flavory wheat that grows. And each flake hides 25% of bran.

It means whole wheat nutrition with plenty of bran in a form that all enjoy.

Package Free
To physicians on request.

Pettijohn's
Rolled Soft Wheat—
25% Bran

The Quaker Oats Company, Chicago

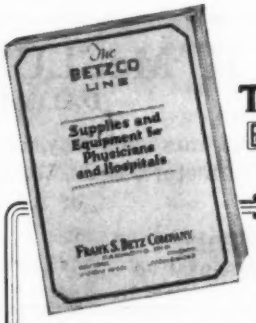
SAVE MONEY ON
YOUR X-RAY SUPPLIES
Get Our Price List and Discounts on Quantities Before You Purchase
HUNDREDS OF DOCTORS FIND WE SAVE THEM FROM 10% TO 25% ON X-RAY LABORATORY COSTS

AMONG THE MANY ARTICLES SOLD ARE

X-RAY PLATES. Three brands in stock for quick shipment. PARAGON Brand, for finest work; UNIVERSAL Brand, where price is important.
X-RAY FILMS. Duplitized or Double Coated—all standard sizes. X-Ograph (metal backed) dental films at new, low prices. Eastman films, fast or slow emulsion.
BARIUM SULPHATE. For stomach work. Finest grade. Low price.
COOLIDGE X-RAY TUBES. 5 Styles, 10 or 30 milliamp.—Radiator (small bulb), or broad, medium or fine focus, large bulb. Lead Glass Shields for Radiator type.
DEVELOPING TANKS. 4 or 6 compartment stone, will end your dark room troubles. 5 sizes of Enameled Steel Tanks.
DENTAL FILM MOUNTS. Black or gray cardboard with celluloid window or all celluloid type, one to eleven film openings. Special list and samples on request. Price includes your name and address.
DEVELOPER CHEMICALS. Metol, Hydroquinone, Hypo, etc.
INTENSIFYING SCREENS. Patterson, TE, or celluloid-backed screens. Reduce exposure to one-fourth or less. Double screens for film. All-metal Cassettes.
LEADED GLOVES AND APRONS. (New type glove, lower priced.)
FILING ENVELOPES with printed X-Ray form. (For used plates.) Order direct or through your dealer.

If You Have a Machine Get Your Name on Our Mailing List

GEO. W. BRADY & CO.
So. Western Ave. CHICAGO



The New BETZCO Book Boosts the value of your dollar—

This new Physicians' Supply Book displays the entire Standard High Grade Betzco line. Instruments, dressings, rubber and leather goods, glassware, Pharmaceuticals, and Steel Furniture, are shown, together with many new items of genuine interest to the practitioner seeking to increase his income.

Our unconditional guarantee protects you against loss or dissatisfaction. Large production and economical selling methods save you money. Get in line for a copy—clip the coupon now.

FRANK S. BETZ CO.,
Hammond, Ind.
New York-Chicago

FRANK S. BETZ CO., Hammond, Ind.
Send free copy Betzco Physicians' Supply Book.
Name.....
Address.....

The Management of an Infant's Diet

Malnutrition, Marasmus, Infantile Atrophy, Athrepsia

Mellin's Food	**8 level tablespoonfuls**
Skimmed Milk (1% fat)	**9 fluidounces**
Water	**15 fluidounces**

This mixture contains 56.61 grams of carbohydrates, thus supplying material that is utilized rapidly for heat and energy. The predominating carbohydrate is MALTOSE, which has the highest point of assimilation of any of the sugars, is immediately available as fuel and may be safely given in comparatively large amounts. The daily intake of protein from the employment of this formula is 15.54 grams, an amount calculated to be sufficient to replace depleted tissues and to provide for new growth. There is present in the mixture 4.32 grams of salts for replenishing inorganic elements.

The suggested modification furnishes nutrition in keeping with the character and amount of food elements best adapted to the particular demands of infants in an extreme state of emaciation and serves well as a starting point in attempting to meet the nutritive requirements of these undernourished babies.

Mellin's Food Co., 177 State Street Boston, Mass.

E. H. McCLURE COMPANY

DALLAS, TEXAS

Surgical Instruments and Physicians' Supplies of Every Description
Sterilizers, Disinfectors, Beds, Ward Furniture and Hospital Equipment of All Kinds

P. B. GRUBBS,
Western Representative

3513 Fort Boulevard,
El Paso, Texas

WILSON-MILLICAN

"THE BEST CLEANERS"

The Best Work, the Best Service. We use Chemical steam and hot air methods for sterilizing each garment that we clean and press.

Phone 4400 1100 E. Boulevard

EL PASO TEXAS

Precautions in the Preparation of Digitalis

TWO rigid requirements face the pharmaceutical chemist in making a dependable digitalis preparation. He must first obtain high original potency, and in the second place every precaution must be observed to prevent deterioration of the finished product while on its way from laboratory to patient.

Digitalis leaves should preferably be selected that will run high in glucosidal content. From crude drug assaying 200 per cent U. S. P. standard, a finished tincture fully 150 per cent of U. S. P. strength may be obtained without the need of resorting to the possibly deleterious process of concentration. Furthermore, a defatting of the crude drug will add much to the permanence of the finished product.

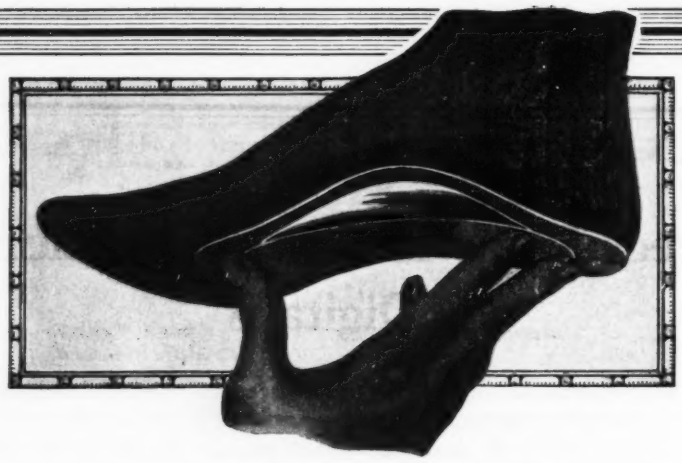
With an active, fat-free tincture thus secured, certain precautions will aid in obviating the deterioration resulting from age, and aggravated by contact with air and sunlight. If placed on the market in small containers, preferably one-ounce in size, the contents of the bottle will in all likelihood be consumed before a marked loss of activity has taken place.

The use of an old product is further guarded against by placing the date of manufacture on the bottle. The destructive action of oxygen may be avoided by displacement of the air in the bottle with inert carbon dioxide. And to render innocuous the actinic rays of sunlight, only amber-colored bottles should be employed.

The finished product must of course be subjected to physiologic standardization by one of the recognized methods, and adjusted if necessary exactly to standard. When these precautions have all been properly observed one may be sure that he has a product of suitable activity and the greatest possible permanence.

Tincture of Digitalis No. 111, P. D. & Co., is a new product manufactured in strict accordance with these specifications.

PARKE, DAVIS & COMPANY
DETROIT, MICHIGAN



To Relieve Weak Foot, Muscular and Ligamentous Strain

The symptoms of these conditions are tired, aching feet, tender heels, cramped toes, rheumatic-like pains in the legs and bodily fatigue. For such cases Dr. Scholl's Foot-Eazer should be prescribed. It is light in weight, self-adjusting, comfortable to wear and gives just the right pressure at the right spot. By removing the unnatural strain, which is always present in cases of weak foot and incipient flat-foot, Dr. Scholl's Foot-Eazer gives immediate and lasting relief.

Dr. Scholl's Foot-Eazer is only one of

Dr Scholl's
Corrective Foot Appliances

Leading shoe dealers and surgical instrument houses in all parts of the world, through special training are prepared to follow accurately physicians' instructions. There is a Dr. Scholl's Corrective Foot Appliance for each specific foot condition, adjustable to meet the individual requirement of each particular case. Dr. Scholl's Appliances are worn in the regular size shoe—no special shoe—no plaster casts required; for heavy persons, for growing children, and those constantly on their feet.

Mail coupon for copy of valuable pamphlet, "Foot Weakness and Correction for the Physician," and chart of corrective foot exercises as recommended by Medical Department, U. S. A.

THE SCHOLL MFG. CO.
213 West Schiller Street, Chicago, Ill.
NEW YORK TORONTO LONDON

Send Coupon for New Pamphlet

Dr. _____

Street _____

City _____ *State* _____

Fill out the coupon for your copy of "Foot Weakness and Correction for the Physician" just published.

Directly and Indirectly

Liquid Peptonoids

is an important nutritional aid in thc sick room

Directly

BEGAUSE it is acceptable when all other food is rejected *and* offers immediately available nitrogen *and* colories—in sufficient amounts to be *of* real importance in emergency feeding—THEREBY saving tissue waste *and* preventing collapse.

Indirctly

BEGAUSE it sets the digestive pandulum in motion, kindles the appetite *and* increases food tolerance—THUS speeding the moment when more substantial nourishment may added to the dietary.

Also DRY PEPTONOIDS (Soluble). 40% Protein
51.5% Carbohydrate

THE ARLINGTON CHEMICAL COMPANY

YONKERS, NEW YORK

Tycos

Improved Apparatus for the

ANALYSIS OF URINE

Tycos Urinalysis Glassware covers all the more important tests of urine. New design and careful workmanship give each instrument proven accuracy.

Indicanometer
Albuminometer
Acidimeter
Urinometer
Ureometer

We also make *Tycos* Fever Thermometers, *Tycos* Pocket and Office type Sphygmomanometers.

Send for booklet 4 on Urinalysis.

Taylor Instrument Companies
ROCHESTER, N. Y. UG. 6

Phenoltetrachlorphthalein Ampules, H. W. & D.

Sterile, stable solution of phenoltetrachlorphthalein 50 milligrams to the cubic centimeter, for use in the

Hepatic Functional Test

according to the technic offered by Dr. S. M. Rosenthal, "The Journal A. M. A., December 23, 1921.

Boxes of eight ampules, each containing more than enough dye for fifty pounds of body weight.

Detailed information on request.

Hynson, Westcott & Dunning
BALTIMORE

Peptone Solution (Armour)

5% Isotonic---Sterile

PHARMACEUTICAL PRODUCTS

Literature for Physicians

1 c.c. ampoules, 12 in box

For hypodermatic use in the treatment of Migraine---Asthma and its congeners is now available.

This solution is prepared from special peptone made for Dr. A. G. Auld, London, and is referred to by him, in his various papers appearing in the British Medical Journal, as Peptone No. 2.

ARMOUR AND COMPANY
CHICAGO

Southwestern Medicine

Official Organ of
ARIZONA STATE MEDICAL ASSOCIATION
NEW MEXICO MEDICAL SOCIETY
EL PASO COUNTY MEDICAL SOCIETY
MEDICAL & SURGICAL ASSOCIATION OF THE SOUTHWEST

VOL. VII OCTOBER, 1923 NO. 10

Annual Subscription $2 **Single Copies 25 Cents**
Entered at the Postoffice at Phoenix, Arizona as second class matter.
"Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized March 1, 1921."

HISTORY OF MEDICAL FEES.*

D. E. SMALLHORST, M. D., El Paso, Texas.

The first physician who has left a clear idea of the financial success of his work was physician to King Tchser, third dynasty in Egypt who lived about 4500 B. C. His name was Em Hetep. He must have been very successful and much loved for he is spoken of as the "Master of Secrets," "Writer of Mysteries" and more often as "Bringer of Peace." He was a psychotherapeutist. He was also remembered after his death by being deified, not as the Kings were, since he retained more human characteristics. His statue shows him clean-shaven with short hair. Perhaps the following quotation will give a better idea of the regulations the physicians of that age were subjected to:

"A physician who desires success in his practice, his own profit, a good name and finally a place in heaven, must pray daily for the welfare of all living creatures, first of the Brahmans and of the cow." (sacred animal of Egyptians).

"The physician should wear his hair short, keep his nails clean and cut close, and wear a sweet smelling dress. He should never leave the house without a cane or umbrella (hence custom of physician's staff). He should avoid especially any familiarity with women and his speech should be soft, clear and pleasant. Transactions in the house should not be bruited abroad."

The next great member of the medical profession was a surgeon. He was buried near Memphis in his own tomb, known as "Step-Pyramid." The walls of his tomb are covered with pictures of surgical operations. These are the first surgical operations of which we have a record in pictures. One is evidently a carbuncle on the neck, showing that the people of that time were troubled not unlike they are now. Another is an operation on the arm, another the foot, etc.

It is to be remembered that only Kings and high dignitaries could have a private tomb or pyramid. Hence it is thought this surgeon was very highly regarded or he could not have afforded such luxuriant burial.

It is not known how much the fees were because the laws were not codified until about 2250 B. C. by the sixth King of the first dynasty. This code was found on the Acropolis of Susa in 1902 by an expedition sent out by the French government, and was engraved upon a stone over eight feet high; when translated, it showed this old king to be a very wise man. There is scarcely any important social problem of the modern time omitted, from divorce and the servant problem to the fees of professional men and the relation of relatives to one another in money matters, also the indemnities to be paid for injuries and the settlement of damage cases. The question of physician's fees in this code alone is of interest to us. He does not say that a certain operation shall be done for a certain

(**Read before the El Paso County Medical Society.*)

fee, but a peculiar operation upon a wealthy person was worth one price, on a middle class person another price, or upon a working person a third price, for example:

"If a physician operate on a man for a severe wound, or make a severe wound upon a man with a bonze lancet and save the man's life, or if he open an abscess (in the eye) of a man with a bonze lancet and save the man's eye, he shall receive ten shekels of silver as his fee. If he be a freeman he shall receive five shekels. If it be a man's slave, the owner of the slave shall give the physician two shekels of silver."

A smaller fee was exacted for less important services. Most all internal troubles were called bowel troubles, but a rather good fee was provided for it.

"If a physician set a broken bone for a man or cure his diseased bowel, the patient shall give five shekels of silver to the physician. If he be a free man he shall give three shekels of silver. If it be a man's slave, the owner of the slave shall give two shekels of silver to the physician."

The value of the fee must be judged by the buying power of the shekel at that period. A silver shekel was about 50c. Therefore, ten shekels or five dollars for saving a rich man's life or eye seems small. But when we realize that ten shekels represents the average yearly wage of skilled labor, we see that it would mean about $2500 or $3000 today. There was another side to this code which prevented unskilled physicians from working their profession. It might be thought that this would discourage the development of surgery, or that some lives might be saved by taking a chance that would otherwise be lost, but undoubtedly some allowance was made by the judge in such cases. This is the code:

"If a physician operate on a man for a severe wound with a bronze lancet and cause the man's death, or open an abscess in the eye with a bronze lancet and destroy the man's eye, they shall cut off his fingers. If a physician operate on a slave of a freeman for a severe wound with a bronze lancet and cause the man's death, he shall restore a slave of equal value. If he open an abscess in his eye with a bronze lancet and destroy his eye he shall pay silver to the extent of one-half of his price."

Probably earlier than this the Egyptian medical knowledge was held by the priests. This was the first knowledge of specialists we have. The practice of medicine was divided into specialties. (1) The higher or conjurations, dissolving charms, etc. (2) Interpretations of dreams of the sick. (3) Just ordinary medicine. The higher class of priests (sages and soothsayers) were required to study the first 36 Hermetic books, and were the physicians of the highest science. The priests of the lowest grade studied the last six of the Hermetic books which treated of anatomy, pathology, pharmacology, ophthalmology and gynecology.

There was another class of physicians who followed the army and were paid by the state. Also, there were physicians for each part of the body. If the sick were visited in their homes, the call for the physician had to be sent through the temple, and the head priest of the temple dispatched the specialist best suited to the case. The rich and the persons of rank had their "physicians in ordinary" but whether there were hospitals is not known.

There were such strict castes that only the son of a physician could be a physician. In India, the Indians, however, did not have this system. Anyone could come from lower castes and become something better.

The income of the physician was partially independent of their practice, inasmuch as it depended upon the proceeds of the extensive and untaxable endowments, also the presents given to the gods (and to the priests) as votive offerings, which under certain circumstances could be bargained for in advance. So you see the custom of haggling for fees is not modern.

Coined money was unknown, but rings of gold and silver of known weight were used. Besides they ate of the offerings and received in addition, beef, fowls and wine as presents. So they did not fare so badly after all.

The regulations of the ancient Persians with respect to medical fees and examination are known to us more

fully than their medicines. The priests alone were bad pay; a simple benediction was sufficient to satisfy their score. All other persons paid well. The chief of a tribe paid with a farm. A local magnate, or a boy of good family paid with one large draught ox. A householder, a small draught ox. The lady of the house, one she ass. The wife of the chief of the family, one cow. The wife of the chief of the tribe, one horse. The wife of the chief of the province, one she camel.

Even the veterinary was not forgotten in this old Persian tariff law. They received for the care of a large draught ox, a medium sized ox; and for the care of a medium sized ox, a small one; and for a small one, the value of the ox in feed. The dog (a sacred animal) was treated like a human being.

The old Jew injunction to the Doctor as given to us in the Talmud still holds good. It runs thus: "Look to your pay, O Physician, for that for which nothing is paid, the same never cures."

In early Chinese history we find anyone might be a physician. As late as 1882 we have this edict:

"The doctors have a bad habit of not visiting their patients before 1 p. m. Some of them even smoke opium and drink tea (?) until late in the evening. These are abuses which the government will in no wise permit. Doctors must visit their patients at all times, and if necessary must visit them several times a day. They must think more about them and less about their fees. The public and all officials are notified that a physician who does not come when called can claim only the half of his fee and expenses. If you physicians put off your calls, you manifest your godlessness, and sin against yourselves."

To go back again to the early Greek physician. He received what was called an honorarium, which was, as the name implies, purely an honorary gift. The doctor, however, had something to say as to what it should be. By the time of Hippocrates, 460 B. C., the taking of money as a fee was regarded as professional, though no definite amount was fixed by the profession. About this time, what is now the public dispensary was established, at which the poor were treated free, the medical attendant being paid by the city. His fee was about $300 to $500 per year. This seems small measured by medical standards; but when considered that it is about five times the amount paid the skilled laborer of that day, you see that the M. D. of that period was better paid than he is today.

Demokades received a pair of gold bracelets from Darius, King of the Persians, for reducing a dislocation, and when the physician seemed displeased with the pay, the King gave him a fully furnished house with the right to sit at the King's table. Clembratus received $100,000 from Antiachus I for the successful treatment of the King.

The honorarium among the Gereks was regulated according to the wealth of the patient. The maximum night call was $100, while the minimum was a drachma, or about 20 cents. Aristophanes has a lower figure and even suggests that a physician at times has to make a call for no fee. This is nothing new even in these modern times. Then came the good old days when all Grecian cities were democracies and every citizen was as good as the other. Special arrangements had to be made according to the value of the physician's services to particular patients.

In Rome, 130-200 A. D., there is little detail about medical compensation as a whole. Galen, however, received the equivalent of $2000 in our money for treating successfully the wife of the Consul during some acute febrile attack.

It was at this period, when Greek learning dominated the letters, though Rome ruled the world. It is easy to see how the great doctors of Rome had Greek names. Of these, Xenaphon is an example. Besides being physician-in-ordinary to the Emperor, he was also imperial cabinet secretary for the Greek correspondence, and in this position of influence he received special appointments and

privileges not only for himself, but also for his family and relatives, and had his native town exempted from taxation. His grateful countrymen built a tomb and set up statutes for him and had coins struck with his effigy upon them. It was he who is alleged to have put an end to Claudius with poison, when he was already very sick. His brother, who followed him, drew a salary of $25,000, but assured the Emperor that he had only taken the position to please him, as his town practice brought him at least $40,000. In spite of the enormous sums spent by these brothers upon their home town, they left an estate worth more than $1,500,000.

The elder Pliny tells us of two distinguished court physicians whose professional income was about $25,000 yearly. Though their name is Latin, Stertinii, they must have been of Greek origin. They were born in Naples and spent vast sums in beautifying a portion of that city which was called Magna Graecia.

The ordinary physician of Rome of this period asked about 30 cents for a visit; with the purchasing power of money of that day, 30 cents was more than $3.00 now. The middle class lived in Rome about as the same classes of today, skilled artizans, shopkeepers and agriculturists. The very wealthy made their vast fortunes about as they are made today, the opportunity to collect taxes for the government, or the chance to corner some provision, or monopolize some form of industry or trade.

The fees of the middle ages were good. This is to be expected because of the high educational standard required.

Frederick II issued a law for the two Sicilies (Southern Italy and Sicily proper), regarding three years of preliminary study at the university before the study of medicine could be taken up; then four years in a medical school and an extra year's practice under the direction of a reputable physician before a license for independent practice could be issued. If the practice of surgery was desired, an additional year of study of anatomy and surgery was required. It would not have been possible to maintain these high standards were not the fees sufficient to justify the 7 or 8 years preparation and had the support and protection of the state.

A little about the purchasing power of money of this time: In the 13th century in England a laborer's wage was 4 or 5 cents per day. A doctor's visit was 15 cents, a day call, and about 30 cents at night. Not much by 1923 standards, but a fat sheep could be bought for 1 shilling 2 pence (26c), a fat hog 3 shillings (72c), a stall fed ox 16 shillings ($3.85.) Other food stuffs must have been in proportion. Thus you see, though the doctors fee seems very small when measured by ours of today, when 15 cents was the price of two day's pay for a laborer, or would buy almost 3 fat geese, or two pair of shoes, you come to the conclusion that the doctors of the 13th century received a better fee than we do today. John Arden, a famous English surgeon, 14th century, received $100.00 for an operation for a simple rectal fistula.

There was some set-back in medical education and in professional standards towards the end of the 14th and beginning of the 15th century. These were due to social disturbances, to wars, and to the loosening of political and ecclesiastical authority in many parts of Europe. Even with this there was not such a descent in the scale of fees as to make them less than professional reward or merely wages for work done. At this time the number of physicians had increased as a consequence of the ease with which a university medical education could be obtained. The fees are an index to the high professional status of the physician.

In some cities the physician was paid a certain fee for each visit; in others the fee was regulated by the number of days the patient was under treatment. If a physician made a visit outside of a city he was allowed his regular fee plus distance (mileage) plus the time required to

make the visit, together with all expenses of the trip. Under these conditions a vehicle of some kind, or an escort was sent to accompany the physician and his comfort and convenience were continuously provided for until his return home.

One wonders whether they had any difficulty in collecting their fees during this period. We are not surprised to find that the advice given young doctors include that, as to the time when they should present their bills. They had evidently learned the lesson at that time that people are long on gratitude when they are ill and short on payment when they are well.

They were told when receiving their medical degree with other valuable advice, not to wait long after the attention to the patient to present their bills, but just as soon as convalescence is properly established, (or if during the illness itself the regular time should come) not to hesitate to send it and above all, let the patient understand how much of a pecuniary obligation he is being placed under.

There is a little volume of instructions for the young physician issued in the 13th century. The author is very explicit and direct in his advice. He says:

"When you have brought the patient to a state of good health you must ask his permission to cease your visits, lest further attendance might be a cause of shame. You should then talk to the head of the house or to those who are more closely related to the patient in the following terms: 'God the All-powerful has directed our actions and has deigned to restore your relative to health by our ministrations. I hope now that he will remain in good health and that I may be permitted to surrender him to the care of his family. If any of you should be stricken with disease and should wish to call upon us, we shall be ready to lay everything else aside in order to come to your assistance. In the meantime a proper remuneration for our services in the present case will be a pledge for our future readiness to help you in every way.' It is well, therefore, if during your attendance on the sick person, you have been careful of the feelings and susceptibilities of those who are caring for them, since it is well to stand high in their favor. The sick person is practically always sure to consent then to your fee. It is always surer however, to receive payment while the ailing person is not as yet entirely well. Otherwise there is some risk of not being paid, for a hand that is ready to give is sometimes drawn back after the cure is complete. Once you have your fees, give due thanks, say your adieux to all and withdraw in peace."

It is interesting to place beside these old-time laws and customs regulating medical fees of the old world, those of America in the 18th century. In that time the physician realized his position more thoroughly and endeavored to maintain it. His fees seem low as compared with today, but when compared with the purchasing power of money of that day and now it seems that they were much better paid than the doctor of today; for example, the New York City Medical Society has on record the fact that in the middle of the 18th century they paid two dollars per month for rent of a hall one night each week, and this price included fire and candles when needed.

In those days all physicians carried their own medicine. The first dose was included in the fee for the first visit. All subsequent medicines were charged for at a good price even for today. First consultation fee was $5.00, all subsequent fees were $2.00. Office visits 50 cents to $1.00 with all medicine extra. Night and winter calls were extra, usually double the day calls.

If these prices are compared with those of today, and taking the purchasing power of money of then and now—$10.00 for cow and calf, 30 cents turkey, 20 cents goose, eggs 6 cents per dozen, etc., one can readily see that the physician of that day received better fees than most physicians of today. The doctor bill of those times was usually paid, if not in cash then in something equally as valuable or usable to the doctor.

Taking everything in consideration, who would wish the return of those so-called "good old days."

PHYSICIAN AND PATIENT

A Professional Study*

H. S. BENNETT, A. B., M. D., U. S. Veterans' Hospital, Fort Bayard, New Mexico.

We are dealing with life, and life is not a simple entity. The physiological body and, to a lesser extent, the anatomical body are the products of an expressional experience and are the channels through which the life with which we deal manifests itself; but above and beyond all of this is the intangible post-natal complex which dominates those manifestations having motivated volition as its active or passively potent master. All elements combine to form a complete whole, and the individual life-span is marked by uninterrupted effort toward harmony, exact balance and self-preservation; but self is more than an observable demonstrable being and its preservation more than the maintenance of life.

Into this realm of astounding reality we, as physicians, must enter, but be it ever kept in mind that we enter not as physicians only, but as men, as sharers in the same elemental complexities, as individuals not devoid of the silent power of personality, as integral parts of that homogeneous ego that differentiates the human from the lower vertebrates; and this I would stress, as the unevadable duty of every physician, let us enter that realm with earnestness and reverence.

"In the practice of our profession we are dealing not merely with a finely adjusted and highly sensitive mechanism called the organic body, but with that triune entity called man in whom the will to do and to be is co-existent with his somatic elements and is correlated with and dominated by that supreme power under which the sentient man becomes the living being, capable of reproducing his kind in the likeness of his Creator. We have to do with this triune being made further complex by association with others of his kind, each having his individuality, with certain points of correspondence and contact which modify or accentuate, stimulate or retard the process that we see reflected in the end results known as "cases". In fine, we have a supercomplex of direct and referred, related and interrelated, psychic and somatic manifestations which, if once in disequilibrium, no amount of acquired knowledge or scientific training of a strictly medical nature can properly restore to its even normal balance." (1) Let us enter the presence of our patient then with a profound sense of our individual responsibility.

It is interesting to glance over the history of development out of which came the recognition of the brain as the seat of autogenic control. As undeniably as this is in the field of the psychologist, it was nevertheless reserved for the physician to discover the all-important truth through the observation of the effects of experiments with the human brain which disease made for them. The progress of knowledge of the actual relation of the mind to the body was very slow. During the closing centuries preceding the Christian era and in the early years of that era the brain was held of slight importance. The ancient Hebrews held the heart to be the seat of the soul and the mind as located in the kidneys. The Bible makes reference: "His reins (kidneys) instruct him in the night seasons", and quotes the prophet Jeremiah as denouncing the hypocrites of his day as those who "had the Lord in their mouths, but not in their kidneys", and an old English phrase is well known: "Two fellows of the same kidney." With the Greeks, although seemingly nearer the truth, their statements were purely speculative. Plato gives us a glowing example of this speculative basis, viz: "The creation of bones and flesh was in this wise. The

(*Read before the Grant County, N. M., Clinical Society.)

foundation of these is the marrow which binds together body and soul, and the marrow is made out of such of the primary triangles as are adapted by their perfection to produce all the four elements. These God took and mingled them in due proportion, making as many kinds of marrow as there were to be hereafter kinds of souls. The receptacle of the divine soul He made round and called that portion of the marrow brain, intending that the vessel containing this substance should be the head. The bones were formed by sifting pure earth and wetting it with marrow. It was then thrust alternately into fire and water, and thus rendered insoluble by ether. As the bone was brittle and liable to mortify and destroy the marrow by too great rigidity, He contrived sinews and flesh, the first to give plasticity, the second to guard against heat and cold. Having this in view, the Creator mingled earth with water, and mixed with them a ferment with acid and salt, so as to form pulpy flesh, etc." (2). Plato's conception undoubtedly was that the substance of the brain was the marrow of the bones and concluded that marrow was the foundation of the living body.

Aristotle (circ. B. C. 335) ridiculed this idea and claimed the brain to be a cool organ whose function was to refrigerate the blood for the heart. In this he followed Hippocrates, the Father of Medicine, who reasoned that since consciousness is quickly abolished by loss of blood or deranged by blood poisons or the heat of fevers, therefore the conscious mind was in the heart and the heart as the central organ of circulation was the seat of the soul. These beliefs were current for five centuries in spite of the fact that as early as B. C. 500 Alcmaeon, the Pythagorean of Crotona, was teaching that the brain was the sole seat of the mind and the source of feeling and emotion. His teachings were, however, given little credence. About B. C. 300, Herophilus and Erastistratus, who headed a school of anatomists in Alexandria, dissected the brain and traced to it the nerves of the special senses, but were not able to wholly discard the teachings of Aristotle as to the function of the brain. Galen, however (circ. A. D. 160), finally overthrew Aristotle's doctrine and demonstrated the brain to be the exclusive seat of thought and feeling. His is the great distinction of establishing this doctrine for all time. Circ. A. D. 170, Aretaeus of Cappodocia recognized that the brain dominated the muscular movements of the body by nerves, but even he maintained that the seat of the soul was in the heart. From Galen's time to the middle of the nineteenth century, or about seventeen hundred years, the progress of discovery of the true function of the brain was extremely slow as compared with the notable advances in astronomy, geography, physical science, chemistry and geology. The great drawback seemed to be the persistent sway of teleology. All down the centuries men were striving to express the reasons of things by their apparent purposes, and to find the causes in those purposes, just as the philosopher who admired the wisdom of that providence that caused great rivers to flow past large towns. The conception of the brain as a secreting gland was maintained from the time of Hippocrates down to Karl Vogt, Cabanis and other authorities in the early years of the nineteenth century. Descartes held that the brain generated animal spirits and that the left ventricle of the heart separated and distilled these spirits or vapors. Hilkish Crooke (1618) held that the office of the hairs of the head was to lead off "the vapours which otherwise would choake and make smoakey the brain." Even Lord Bacon held that the heart was made to beat by its contained spirits. In 1824, Dr. J. Madison Goode, in "Study of Medicine", maintained that the nervous power generated by the brain gland is distributed as a fluid through the nerves. Ehrenberg, in 1833, with the microscope, made the first discovery

of a nerve cell in a spinal ganglion, and four years later Purkinje demonstrated that the gray matter of the cerebrum and cerebellum is made up of nerve cells and their fibres. This was folowed by the work of Scheiden, Schwann, Gall and Spurtzheim. The years between 1845 and 1860 showed notable advances. France tok the lead and the names of Majendie, Longet, Flourons and Gratiolet hold high rank in annals of neurology. It was left, however, to Paul Broca, in 1861, to demonstrate the existence of limited areas in the brain controlling exclusively manifestations of intelligence; this by 1865 was generally admitted. Finally by 1870, through the labors of experimental physiologists and practicing physicians, such as Ferrier, Munk, Luciani, Charcot et al, it was shown that each of the special senses has its anatomical seat in the brain, and that in a centrally placed zone are the seats governing voluntary movements of the muscles of the body and that each group of muscles can be made to contract by exciting the corresponding locality in the cortex of the brain. These were great advances, but for our purpose the discovery that followed is of supreme importance, namely, that of the two hemispheres of the brain but one is the seat of each individual faculty and that one is determined by post-natal experience and formative habit.

The foregoing historical data is given to impress upon our minds the debt we owe to posterity and, by comparison with earlier days of ignorance, the responsibility we have to our patients and its privilege which should never be ignored, in utilizing to the utmost the knowledge thus inherited. This is no small responsibility nor one fraught with less than the greatest demand upon our intelligence, discernment, sympathy and unselfish devotion to duty in the treatment of the individual patient. We have passed the years when therapeutics embraced only what is contained in materica medica. There is as wholesome and efficacious therapy in properly directed understanding and painstaking comprehension of a patient's mental atmosphere as can be found in the whole range of the pharmacopea, nor can we secure the best results from medication unless we do take seriously into account the very personal side of suffering. Nothing should be taken for granted and nothing left to chance.

Dr. William J. Mayo makes the following striking assertion: "The medical profession as a whole has not realized that for all practical purposes the cerebrospinal nervous system represents man, and that man is not so much concerned with whether his suffering depends on physical disease as he is with the fact that he suffers. The suffering is real to him whether or not it is real to the medical man. Social conditions are the common cause of disaster to an unstable nervous system and lie behind the bulk of the nervous disturbances which mimic physical conditions, breed neuroses and result in sorrow and misfortune. The patient demands a remedy, not prevention. Perhaps life obligations are the fundamental cause of the disturbances, and we cannot change the social condition of our patient. If relief is given, it must be through change of mental attitude." (3).

My own professional experience has borne out the truth of these observations and assertions, and I could not practice medicine honestly did I not endeavor by every means at my command to dispel or at least ease an intangible non-organic malady that is the real and vital cause of a suffering more acute than physical pain and more enduring. Herein, my confreres, lies a growing need of today. It is as truly existent in our institutional as in our private work, and the individual life that places itself in our hands, beset by trials and surrounded by maladjustments of intimate concern, should tell us with inarticulate speech: "If you treat my physical disability and give no thought to my inner life, you are derelict in your duty as my physician." There is many

a patient, as I shall illustrate by a case history, to whom his or her physical disability is but a manifestation of, or secondary to, a mental impasse which has resisted auto-negotiation.

There is the urge of inclination, at this time, to go into the interesting details of methods which have been found effectual in removing the obstacles preventing restoration of complete physical and mental health, but the limits of this paper forbid. Be it remarked that no method proven by experience has accomplished its therapeutic mission without complete submersion of the selfish interests of the physician in the troubled consciousness of the patient, and the injection of his own personality into and harmonizing it with that of his patient.

Coincident with, but essentially supplementary to the study of the individual patieint is group study. This constitutes a problem the importance of which in our institutional work is pressing for greater recognition, and calls for care and intelligent judgment in handling. Not all cases of diagnostic similarity do well in each others presence, nor is diversity of ailment a bar to contiguity of location; the determining factors are psychological rather than physiological and can be allocated only by intelligent observation of and wisely sympathetic interest in the individual patient. Diversity of mental attitude, hypersensitiveness, personal peculiarities, divergence of ideals, each of these must be considered in its true value and importance, both subjectively and objectively, and a wise valuation of their interaction made. I believe it is necessary to stress the use of wisdom, as it is neither necessary nor expedient to cater to every passing whim of the sick. The fundamental upon which judgment should be based must be imbedded deep within the experience-formed content of the patient's self where it constitutes an integral part of the life we are treating. Here we find psychology to be the sine qua non of treatment and arrangement. Difficult as the problem may seem at first glance when considered in connection with a large group of patients under one roof, its solution is more readily reached and the benefits accruing are, in themselves, an aid to its permanence. Wherever we can reduce friction, there facility of progress is assured. and restoration to health hastened, thereby reducing operating expense per capita per term of illness, increasing the popularity of the institution and enhancing the value of its medical personnel. In its prime essential, is not this what we are all aiming to acquire whether we are in private practice or in institutional work? In its last analysis it amounts to this; the conscientious physician needs only to be true to the best that is in himself to expedite successful treatment, add lustre to his own name and a growingly enviable reputation to the institution with which he is associated. In passing, it is pertinent to remark the unique value of intelligent nursing service in group study, arrangement and control. In some institutions there are weekly or monthly instruction talks given by physicians to their nurses, and the results have been a quickened interest, a wider and more intelligent application to duty and a deeper appreciation by the nurse of her professional value.

There is another element which cannot be ignored in the relation of physician to patient, namely, the patient's environment. This is as constantly a part of his consideration as the air he breathes is to the circulation of his blood. In health we often become oblivious to our environment, at least so far as active notice is concerned, but to the sick it is an ever-present factor in existence and one which has a most positive influence for good or ill. The influence comes, however, not from the actual conditions of environment, but from the patient's interpretation of them, and here lies a broad field of action for the physician. What is the patient's personal response to his environ-

ment? Does it depress or is it an inspiration? Is it neutral and thus a dead weight or has it the effect of inciting to a life and deeds that will eventually cause personal deterioration? Does it make for rest of body and repose of mind or is there that evolved from it which engenders strife and discontent? Whatever the personal reaction, it is so because of some personal conception, and the physician has a duty in the study of such conceptions in their relations to the particular personalities of his patients, and should so deal with each individual case as not only to harmonize warring elements, but also, if possible, to lead the mind under his care to so select or exclude that it may derive actual uplift and stimulating benefit. Many mistaken conclusions are easily removed by simple explanation, and many a case of negation to environmental help are so from a lack of rational link easily supplied. Environment is a complex quantity and in some way, at some point, touches the very life springs of everyone. Surely then it is eminently worthy of consideration especially in the treatment of chronic disease. A patient's reaction to it may be in itself a disease the chronicity of which is measured by the physician's recognition of it and his intelligent treatment.

In the course of an address before the American Biological Society at Carnegie Institute, Washington, in December, 1918, I had occasion to remark upon the environmental influence on a group of three hundred patients who had been under my care during field service for the U. S. P. H. S. The distinguished gathering of scientific men present were eager to discuss the value and truth of effect of such environmental influence, but the most striking deduction derived from this discussion was that, with the exception of a necropsy expert from Walter Reed Hospital and the then director of the U. S. Medical Museum, who were definite and positive in their agreement with me, no others could see the value in giving consideration to what they termed a "purely non-scientific entity." Being the guest of the evening, I could not courteously retaliate, but, nothing daunted, I entertained compassion for purely scientific entities.

There is a very deep and potent factor for professional study in the patient's personal subjective reaction to treatment as a whole and especially to the personality of his physician. This has been a bar sinister in the success of many a physician in cases suffering with even minor and easily cured disease and cannot, with safety, be disregarded. We have all known cases which seemed to baffle medical skill, although, clinically, the picture was not serious. There was, in many instances, a silent antipathy, an unreasoning antagonism, a, if I may use the term, short-circuiting of comprehension or a lack of confidence. Sometimes this is the fault of the patient, sometimes of the physician, but wherever the source, the physician must, if he can, discover the controlling factor and eradicate the trouble if he would treat wisely and well. A patient is often not known to himself, nor is the medical profession, I venture to hazard, entirely free from such an eventuality, but it is his duty to know both himself and his patient as well and as truly as possible and to teach his patient to know himself. In the process of such a study and instruction he will find the factor controlling his patient's reactions.

We have considered at some length the physician's personal duty to his patient, but what of his professional duty to himself? Herein is food for thought and almost inexhaustible material for study. In the course of our foregoing studies we have had to consider some elements in the physician's duty to himself because they were inextricably bound up with his duty to his patient, and time would not permit a full covering of the field in detail tonight, but there are three essential features in his professional study of himself in relation to an adequate to his individual patient that

may be touched upon, namely, (a) injection of self, (b) withdrawal of self, (c) elimination of self.

Granted that the physician knows himself, he will find occasions when he is face to face with a selfless patient, made so, let us say, by either inherited weakness of will, by the influence of social repression or by the carking cares of life. The one essential primary need is a reawakening. The patient has not lost irretrievably, but his individual self has simply become functionless. Here the physician can often, by a forceful and intelligent application of his own self, reanimate and refunctionate toward a reawakening and a new beginning.

There is still another type of case where the presence of the physician's self is for the time being acting as deterrent or repressive force, dominating the whole picture and causing the self of his patient to remain passive. At such a time—and such incidents in our experience are not rare—temporary withdrawal of self is demanded. Here is a time for altruistic endeavor, for absolute loyalty to the principles of our profession and for added interest through devotion.

But there come times when complete elimination of self is necessary if a physician's full duty is done. Nothing is more difficult, but nothing is more noble, and some of the greatest names in the brilliant galaxy of our professional firmament shine with a venerable lustre by reason of their complete elimination of self in the cause of duty. They knew and mastered themselves, the world found in them a greater than they knew and many a blessing rises like incense from grateful humanity.

We cannot do better than, first, to endeavor to know ourselves, and, second, with intelligent honesty and absolute devotion to make true and potent application of that known self. "Just as the 'greatest study of mankind is man' so the greatest and essential study of man is himself, which alone can enable him to know and wisely treat his fellow man. There is inherent in man a modicum of mental equipment which is the possession of everyone, and added to this is, in individual instances, a variant of plusability, all of which, through the individual intellect, may become subjective knowledge, but I believe that every thinking mind will bear me out in the assertion that no knowledge may be claimed as a possession until the intellectual processes have become able to demonstrate it and to utilize its worth. In this respect, and in this only, knowledge is power—a power without which the mind is little more than a warehouse with doors locked, but with which it is enabled to illuminate the minds of others and to read thereby the story of their needs. Whether Hahnemann's dictum—"Similia similibus curantur"—is true as applied to the uses of materia medica, it is certainly true as applied to the correlated instincts, emotions and tendencies of mankind which are intangible and undiscoverable save through a mutuality of understanding. How often have we heard the remark, "He understands me and helps me so much." There is truth and sanity in that statement, and the help comes not simply because he "understands", but because, by reason of that understanding, he has been able to neutralize the mental toxins of unrest and disproportion and thereby stabilize and clarify the perspective of life. After that we have a clear picture, be the condition simple or complex. The physician should be able to produce a sympathetic antidote for primary emotional ills and thus prepare and cultivate a physiological medium for the germination, growth and ultimate fruitage of proper medical therapeusis."

CASE HISTORIES

Case 1. J. W. A. Male. Single. Age 25; height 67 inchs; weight 110 pounds. Entered military service at outbreak of war and was assigned to clerical forces. Never sent overseas. Detailed in camps in this country until 1919, when suffered breakdown in health. Was hospitalized in four different institutions, in the last of which I was called into consultation on his case. Diagnoses appeared as follows: (1) Tuberculosis, pulmonary, chronic, moderately advanced, active.

(2) Sacral myalgia, chronic. Patient had been wearing steel-ribbed corset for months.

Appearance: Looked ill, expression anxious, face prematurely lined, body markedly undernourished, posture poor, walked with stoop, gait halting and uncertain.

Laboratory findings, negative.

Subjective symptoms: Slight irritable cough, severe pain over sacral region, radiating forward and downward; frequent nausea; mental depression; anorexia. Examination revealed no evidence of tuberculosis at that time. There was a posterior urethritis with stricture of the vesicle sphincter and a chronic prostatitis. Careful inquiry, after gaining the confidence of the patient, brought out the fact that his whole ambition had been to go overseas, and he felt humiliated in the eyes of the world.

Specific mental and medical therapy brought him, after two weeks, to subjective well-being. All symptoms subsided and in two months he was discharged to training. Six months later, information was to the effect that he was actively and happily engaged in work, had gained 25 pounds in weight, and had apparently regained his prewar self-confidence and ability.

Case 2. E. C. Female; married; age 31; height 65 inches; weight 145 pounds. Had one daughter.

Apparently normal woman, well developed and well nourished.

Complaints: Migraine, malaise, pains in back; mental confusion.

History: Had suffered in this way for three years, and no treatment had availed.

Examination revealed no physiological pathology.

Careful study of personality, home conditions, social and physical environment and mental attitude led to discovery of personal maladjustments due to misinterpretation. Explanation and conference with all concerned led quickly to relief, and normal health of body and mind. After five years there has been no deviation from perfect health and contentment with life.

Case 3. X, male; single; age 26.

In hospital suffering from non-tuberculous lung infection. Bed patient, with frequent high temprature.

Complained of many pains and much distress which could not be accounted for by physical findings, x ray or clinical record.

A study of adjacent patients brought to light the fact that the patient occupying the bed at his left had similar complaints which were all founded upon physical condition.

Removal of patient to a distant location on ward, with frequent instructional talks, resulted in quick and complete recovery.

SUMMARY

(1) Profound mysteries and interests are in the physician's care, and he should approach them with earnestness and reverence.

(2) Progenitors wrought in a maze of speculation, but with untiring zeal. We inherit the priceless knowledge their efforts produced. Let us appreciate its value and be as zealous in its use.

(3) The patient is an individual and should be treated as such in his physical, mental and spiritual attributes and the complex of his personality.

(4) The influence of contiguity and group association among patients should not be overlooked. There is real importance in the study, arrangement and control of aggregations, both subjectively and objectively.

(5) Environment and the patient's adjustment to it bears a vital relation to his ultimate well-being and should receive its relative attention by the physician.

(6) A study of the individual patient's personal subjective reaction to treatment is essential, and a determination of the controlling factor a vital necessity to the restoration of normal physical and mental health.

(7) The physician should know himself and make application of that known self in his professional work. The adjustment of himself to his patient's needs requires at times (a) injection of self; (b) withdrawal of self; (c) elimination of self.

(8) Knowledge is power only in so far as that knowledge can be applied, and the need is for intelligent honesty and untiring practical devotion to our professional duty. Nothing can take the place of adherence to high ideals and the establishment of a close personal touch and confidence between physician and patient.

BIBLIOGRAPHY

1. "Education in its Relation to the Use of Medical Knowledge." H. S. Bennett, Medical Record, Nov. 12, 1921.
2. Plato's Works, Jewett's translation, Vol. III, pp. 339 sq. 362.
3. "Collected Papers of the Mayo Clinic," Vol. XIII, p. 1269.

A TECHNIC FOR REMOVAL OF THE TESTICLE AND EPIDIDYMIS FOR EARLY TUBERCULOSIS OF THIS STRUCTURE*

CHAS. S. VIVIAN, M. D., Fellow of the American Urological Assn., Phoenix, Arizona.

In order that any surgical procedure may be successful it is necessary that the object for which it is undertaken be clearly understood, and that it is within the realm of possibilities to accomplish a satisfactory result by the method which is employed. It would be utterly foolish to amputate the thumb in an effort to relieve gangrene of the arm when that part is already dead. Likewise it would be extravagant surgery to amputate the arm if only the thumb was involved. To be effective a surgical procedure must have its foundation on sound anatomical and clinical diagnosis. Certain surgical procedures are applicable to certain surgical diseases and should not be applied haphazardly without due appreciation of underlying pathological conditions. The operation which we are about to consider is intended for the radical cure of early tuberculosis of the epididymis and testicle, which is primary insofar as the seminal tract is concerned in the epididymis, in contradistinction to a lesion which begins in, or involves the seminal vesicles and prostate. Much experimental, pathological and clinical data has been gathered and is divided about equally on the question as to whether or not tuberculosis involves the epididymis before it involves the seminal vesicles. However, there is a large class of patients who have tuberculosis in other parts of the body, notably the lungs, and a small class who have no other demonstrable lesion of tuberculosis, who have tuberculosis in the epididymis and testicle, without appreciable clinical evidence of its presence in the seminal vesicles or prostate.

With this thought, then it is reasonable to hope for a complete cure of genital tuberculosis if the following conditions are fulfilled:

(1) The disease must be removed in its entirety, or, if for any reason this is impossible, an effort must be made to leave behind only that which can be remedied without the aid of surgery.

(2) Inasmuch as these patients are in the active stage of pulmonary tuberculosis, the effects of general anesthesia and surgical shock must be eliminated to the fullest extent.

(3) Strict attention to the treatment of other foci of tuberculosis must be enforced.

(4) The technic must prevent soiling the wound with the consequent replacement of old lesions by a new one equally as dangerous.

(5) Tuberculous material must not be disseminated b r o a d c a s t through the circulation at the time of operation.

Having then determined the extent of the involvement, in order to remove it entirely we should choose an operation which is radical enough to be effective, but not sufficiently destructive to be mutilating. Simple removal of the epididymis with a high separation of the vas has not proven satisfactory in the hands of many operators; first, because the testicle is practically always diseased and frequently requires subsequent removal, and secondly, possibly due to the same cause, the frequent development of tuberculous meningitis, or an acute miliary process. On the other hand, the results obtained from operations which remove all of the vas and part of the prostate, together with the seminal vesicle of the affected side have not been followed by results which would warrant their use in cases that do not have frank involvement of the vesicle and vas deferens.

It has been demonstrated that a metastatic tuberculosis of the genita-

(*Read before the Arizona State Medical Assn., Grand Canyon meeting, June, 1923.)

lia has a marked tendency to involve the blood vessels first; that about 50 per cent begins in the epididymis and 30 per cent in the testes. (L. Sussig. Dent. Zeits. f. Chir. 165:101, July, 1921.)

If then the blood vessels are affected before the vas deferens, it would seem logical in order to prevent a dissemination of the tuberculous process, that the vascular supply of the affected part should be removed with it. In dealing with a tuberculous epididymis complete ligation of the blood supply is impossible without removal of the testicle. It might seem possible on first thought to do a simple epididyectomy with a high separation of the vas, plus ligation of the spermatic vessels. Obviously this is impossible, for, if the testicle does not atrophy, the operation is a failure, because the very purpose for which it was undertaken has failed of accomplishment. We are then confronted with two alternatives,—frank, positive removal of the testicle or conservative atrophy of the part. Removal of the testicle together with the epididymis apparently removes all of the tuberculous lesion, provided it has not commenced in the seminal vesicle or prostate and traveled thence to the epididymis, or has involved the vas and through it the seminal vesicle and prostate. If the prostate and seminal vesicles are extensively involved, the operation which we are about to describe is not indicated, except as a preliminary to a seminal vesiculectomy. A marked indication for this more radical procedure is the presence of perineal fistulas. High amputation of the vas which is sutured outside of the skin and exposed to the sun frequently does a great deal to improve cases in which the seminal vesicle and prostate are involved.

The effect of a general anesthesia on the lungs of a tuberculous individual has long been considered to be deleterious, and many of us have seen our patients lose ground as a result of the shock of surgical procedure carried on under local anesthesia. While the removal of a tuberculous epididymis and testicle, together with drainage of the remaining portions, exerts a beneficial effect upon the general health, it is by no means a curative operation as far as a pulmonary condition is concerned. This phase of the question should be frankly discussed with the patient, and continued enforced rest should be insisted upon.

Because we are dealing with a lesion which is actively tuberculous, it is extremely necessary that we should avoid squeezing out into the circulation infectious material by rough handling of the part. It is then advantageous to isolate the part from the general circulation by clamping its blood supply at the earliest possible moment. Soiling of the operative field by infectious material which escapes through an old skin sinus is dangerous and should be guarded against.

Having then selected a case which is suitable for the removal of the epididymis and testicle, the following technic has been developed:

The cauda equina is anesthetized in the usual way by the injection of 30 c. c. of novocaine sodium solution into the sacral canal, and the patient is turned on his back. If there are any skin sinuses present the area surrounding them, together with the sinus itself, is sterilized by the application of carbolic acid or chaulmoogra oil, and this area is covered with sterile cotton, which is fastened in position with colodion. The scrotum and base of the penis and inguinal region are now painted with iodine, which is also painted over the area which has previously been covered with cotton. Novocaine is now injected into the skin at the region of the inguinal canal in an effort to anesthetize or block off the nerves in the spermatic cord and the overlying skin.

Incision is carried down to the cord in the inguinal canal, and it is delivered outside of the skin, where the vas is isolated and the remainder of the cord is doubly clamped and di-

vided between the clamps. Chain suture is now placed around the proximal end of the cut vessels and as soon as hemostasis is complete the stump is allowed to retract into the abdomen. It is important to note and properly deal with any extension of the peritoneum into the inguinal canal, as this sometimes occurs. The clamp is allowed to remain on the distal portion of the cut vessels. The vas is divided by actual cautery, and the skin is closed with clips down to the lower angle of the incision, leaving room for the forceps holding the stump of the cord to be pushed into the scrotum. The proximal end of the vas is sutured to the skin with the end outside. Incision is carried widely around the area which is covered with cotton and up on the scrotum for a sufficient distance. This incision should extend only to the skin and dartos muscle and should not penetrate any of the coverings of the testicle. The epididymis in all probability will be found adherent to the skin of the scrotum, but if the incision is carried out widely enough between the dartos muscle and coverings of the testicle, a line of cleavage will be found which may be carried completely around all the structures in the scrotum. Incision is now completed around the testicle and epididymis with a blunt Mayo scissors and the testicle, with the epididymis and their coverings attached to the skin bearing the skin sinus, are delivered clear of the scrotum. Forceps are now pushed up through the opening in the scrotum to the incision over the inguinal canal. Grasping the stump of the vessels, the diseased part is delivered clear of the wound. The redundant tissue in the scrotum is approximated by catgut suture, being careful to catch all bleeding points, and the skin is closed without drainage if there has been no spilling of infectious material.

ELECTRIC OPHTHALMIA*

S. A. SCHUSTER, M. D., El Paso, Texas.

In going over the current literature and the standard works in ophthalmology, we find under the caption of "Ophthalmia Electrica," described many different ocular lesions involving the different tissues of the eye.

These lesions are produced by the exposure of the unprotected eye to the electrical flash, whether it be from electric welding machine, lightning, high powered light, etc. However, I wish to confine myself mainly to that type of traumatic conjunctivitis produced by short-circuit flashes and to cite two of a series of cases that have just recently come to my attention. Before referring to the cases, it must be clearly understood that there is no spark or electric current coming in contact with the eye itself. The eye is simply exposed to the intense illumination.

Case 1. Mr. A. C., age 25, single, electrician, came complaining of intense headache, pain in eyes, intense photophobia, lacrymation, and with the history that the day previous, exactly 18 hours ago, while doing some electrical repair work, there was a short-circuit flash about five feet from him. At the time of the flash and up to an hour ago, he had absolutely no symptoms whatsoever. The pain, photophobia, etc., came on very suddenly an hour ago with great intensity. He was particularly anxious for us to understand that no current touched him nor was he close enough to be burned. He also stated that he had one hand between the flash and the eyes. Examination revealed a vision in both eyes of 20-200. The eyes were intensely inflamed, involving both the conjunctival and ciliary vessels. There was a moderate amount of chemosis of the bulbar conjunctiva. The corneal epithelium was edematous as manifested by the reflections of the mirrors of the ophthalmometer and the slight steamy appearance of the cornea.

General examination of the fundus and media proved negative. Fields of vision were practically normal. Under holocain, atropin, and iced compresses, the symptoms disappeared in 24 hours, when his visual acuity returned to normal.

*Read at a regular meeting of the El Paso County Medical Society, January 2, 1923.

Case 2. W. H., aged 30, electric welder, came complaining that he had been welding for the past two hours, and now everything appeared red and cloudy, right vision, 20-40, left vision 20-50. General examination of the eyes was negative, no irritative symptoms being present as yet. The retinal veins were congested. Eight hours later he phoned that the red vision had disappeared, but that the eyes had become very much swollen, intensely painful and injected. Examination at this time revealed the findings of a marked, conjunctival and ciliary injection with steamy cornea, etc., but otherwise the eyes were negative. Atropin in oil, preceded by a drop of holocain, together with ice compresses and confinement to a dark room, cleared the case up in four or five days, the vision being brought up to normal with a refraction.

These two cases are fairly stereotype and illustrate the usual mode of onset and symptomatology.

The symptoms, which are due to the burning action of the ultraviolet ray and, to a much lesser extent, to the luminous ray, can be divided into two groups; (a) the objective, and (b) the subjective symptoms. In the latter group there is the intense burning, stinging pain, the intense photophobia, lacrymation, and more or less diminution of visual acuity. Occasionally there is limitation of the visual fields in the form of contraction or scotomata. The intensity of the symptoms is governed by the different degrees of exposure, the distance of the flash from the eye and the resistance of the eye itself. Although these symptoms are common to a large group of eye conditions, the characteristic feature is the sudden intense onset following an incubation period of from seven to twenty-four hours after the history of exposure. This point was clearly demonstrated in our two cases.

Under the objective symptoms, we have the swelling and the redness of the lids, intense injection of the bulbar conjunctiva, together with chemosis. The corneal epithelium is, as a rule, edematous, but usually there is no break in its continuity. The pupil is usually markedly contracted. On examining with the ophthalmoscope, loupe, and oblique illumination, etc., there is usually little to be seen. However, recently the Gull Strand slit lamp and the corneal microscope have enabled us to do microscopy of the living eye, and this has brought to light many changes in the cornea and lens which heretofore have been unrecognized with the usual diagnostic aids.

Just recently Von Der Heydt described the corneal changes in a case of electric ophthalmia as follows: "The eyes were exposed to a flash of a short circuit 24 hours previously and the cornea now presented dew like changes in the epithelium and many very minute epithelial cell erosions. The striking peculiarity of this case was the sharp demarkation of the involved corneal zone."

Gjessing reports a case of lens change examined by the slit lamp. He says: "The hazy cortex located immediatey under the capsule is noticed to have an appearance like a sponge. In every direction thicker and thinner asbestos looking gray-white, fibre-trends are crossing each other. They are of different thicknesses and follow nowhere the direction of the normal lens fibres. In the meshes between these fibre-trends are seen partly close fine opacities of a round or polygonal shape. The characteristics of the opacities with cataracta electrica are the confusion of cork-screw shaped threads and laces, crossing each other in all directions without following regular run of the lens fibres."

The most important points in the diagnosis then, are: The history of exposure, followed by 12 to 22 hours of complete freedom of symptoms, then the sudden onset of pain, photophobia, lacrymation, accompanied by the aforementioned objective findings.

While the prognosis is usually favorable, in the severe types of ultraviolet ray burn, the permanent reduction of visual acuity and sometimes pain and photophobia may be of long duration. As for the treatment, the most important thing is the prevention. This is carried out by the use of protecting glasses for those whose occupation exposes them to ultraviolet rays.

There are several types now on the market which nearly completely filter out the injurious rays. There is the Euphos lens of Schans, the Crookes, a and b shades, and several others, which are very serviceable. As a matter of fact, even plain glass to a certian extent is a filter for the ultraviolet ray. In the acute stage, a dark room, holocain for the pain, atropin, together with ice compresses, suffice to control the symptoms.

In conclusion, the few salient points are:

I. Electric ophthalmia in this form is essentially an industrial disease, although you see similar conditions resulting from snow blindness, lightning flashes, road blindness, etc.

II. It demonstrates the effect of an over-dose of a normal physiological stimulus,—light.

III. It is interesting to note that it is an etiological factor in certain types of cataract formation. It makes us ask the question, as other ophthalmologists have, whether the continued exposure to light over a long period is a factor in senile cataract formation.

IV. It brings out the value of microscopy of the living eye.

V. It has brought to mind the possibility that the ultraviolet ray might be a participating or exciting cause of other ocular conditions, acting perhaps as a trauma. Practically all the symptoms are due to the burning action of the ultraviolet ray; the pain, photophobia, lacrymation, etc., are due not so much to the retinal irritation as to the spasm of the ciliary muscles and the iris, perhaps together with the exposed corneal nerve endings when there is a break in the epithelium.

THE BIOLOGICAL PROTECTIVE FUNCTION OF THE SKIN*

WILL WILKINSON, M. D., Phoenix, Arizona.

The inspiration for this paper and some of the facts were obtained from a paper entitled, "The Internal Secretion of the Skin," read by Dr. Karl W. Doege at the 1920 Minneapolis meeting of the Soo Railway Surgeons' Association.

We believe that the skin has an important biological protective function in that it produces certain antitoxins and that, when fully functioning, this great external gland by its internal secretions is a dominant factor in regulating metabolism, by stimulating the thyroid, the pituitary, the suprarenals and all the internal secretions. For example, bowel movements are freer following a sun bath.

First, let us consider infections in which the skin is invaded by pathogenic organisms. After recovery there is present in the skin what we now term the allergic reaction; that is, the skin reacts promptly with a marked redness about the point where these germs, dead or alive, are introduced into the dermis. All of us are familiar with the wheal which follows a revaccination of one immuned to smallpox. The luetin and Von Pirquet tests are also examples of this allergic reaction.

ANTITOXINS

In certain diseases, such as diphtheria, we know the specific antitoxin is cytogenic, circulating in, and probably produced by the blood. In other diseases there is evidence that the antitoxin is of histogenic origin. Cases of measles that do not erupt well often develop serious sequelae. The same thing is true of scarlet fever, smallpox and syphilis. We know that the spinal cord and the brain are more frequently attacked by the spirocheta pallida where there have been few or no secondaries or involvment of the skin. It is likely that in these cases of measles, scarlet fever, smallpox, and syphilis the skin is not sufficiently involved to cause it to react with the production of antibodies in adequate quantities to control the infection.

Dr. Edgar Mayer, of Saranac Lake, says: "Light is able to render the skin immune to infections. This was demonstrated in a variola epidemic

(*Read before the Maricopa County Medical Society, at Phoenix, Ariz., April 28, 1923.)

at Leysin, in which no patient, who developed pigmentation under sunlight treatment, showed the skin eruption of variola, whereas all others in intimate association with the latter, but who were not pigmented, had severe eruptions."

SYPHILIS

Syphilitics are frequently visitors to hot springs, turkish baths and massage parlors. They seek treatment that increases the activity of the skin. May it not be that part of the benefit they derive from these external treatments is through the stimulation of the skin to greater production of syphilitic antitoxins.

Likewise the prolonged rubbing of areas of skin may be a factor in the good results obtained by a course of inunctions.

On this basis Moro's inunctions of tuberculin are supposed to give better results in treatment than the subcutaneous injection method. Similarly, Pandorff gives his tuberculin intracutaneously, believing that he thus obtains better results. Pollen extracts give much greater immunity to hay fever when given interdermally.

The desquamated skin of a convalescing scarlet fever patient was formally considered infectious. This scarf skin is now known to be sterile so far as scarlet fever is concerned and may be found to contain antibodies.

SKIN ANTITOXIN

We have already alluded to the facts that in diphtheria (also in tetanus) we know that the antibodies are carried by the blood. It has been proven that this is not the case in trichophytosis infection. The experiment of Dr. B. Block which follows is really epoch making. After an area of skin had been experimentally infected with the above named fungus and had recovered, he transplanted a portion of this healed skin to the body of an individual who had never had a trichophytosis infection. The immunity of this transplanted skin persisted, although the rest of this person's skin was susceptible to infection by this fungus. Thus Dr. Block has proven that the skin possesses following trichophytosis infection, a biological protective function and did produce locally antitoxin against the tricophyton.

OTHER SKIN ANTITOXINS

Since the allergic reaction of Von Pirquet in tuberculosis, of luetin in syphilis and of cowpox virus in those immuned to variola are identical with this trichophytosis reaction, in immuned skin, are we not justified in the conclusion that in luse, tuberculosis and smallpox the skin produces a specific antitoxin for each, which plays a most important part in combating the diseases. The same thing is doubtless true of all the exanthemata and diseases in which the skin is invaded by a specific germ.

Is there any evidence that the skin produces a tubercular antitoxin aside from the facts already alluded to in the tubercular skin reaction. Many cases of bone and gland tuberculosis heal promptly under heliotherapy. Most of the members of this society know of desperate lung cases that recovered only after some months of nude life upon the desert. It seems to me we are justified, in the light of the facts already presented, in suspecting that in some cases the sun baths stimulate the skin's production of tubercular antitoxin. If such is the case, we have a rational explanation of these good results secured by solar treatment, of various forms of tuberculosis, which is of far-reaching importance.

ACNE

For some years I was troubled with a severe acne of both arms as a result of their exposure each spring when playing tennis. On several occasions this acne cleared up promptly on intradermal injections of stock staphylococcus vaccine; whereas, whe nused subcutaneously, the same vaccine had little or no effect. Others have called attention to the superior results of intradermal use of bacterins in skin infections. Under these circumstances it must be that the skin produces the special antitoxin.

GLANDS

That there is an intimate relation between the thyroid, the pituitary, and the gonads none of us doubts. There is also an intimate relation between the skin and the thyroid. The marked change that takes place in the skin when the thyroid is removed or is inactive (resulting in myxedema), proves the relation between these two glands. After a long sun bath I have found my hand unsteady and unable to shoot accurately, or to thread a needle quickly. We believe that a hyperactivity of the skin induced by its exposure to the sun was responsible for a temporary hyperthyroidism, which caused the unsteady hand and also an increase of the pulse from 64 to 130 per minute.

I have seen large inguinal glands which had persisted for years entirely disappear after a few months of daily sun baths, likewise a root abscess of a tooth which had produced gum boils for twenty years clear up so that there were no further gum boils or x-ray evidence of a root abscess.

PNEUMONIA

While practicing in a mining camp at Silverton, Colo., eighteen years ago, in the midst of an epidemic of what the miners called black pneumonia one of the largest men I have ever known, weighing 250 pounds, colored, and seventy years old, was brought to our private hospital. He had had a severe chill and was already coughing up bloody sputum. His case was desperate on account of his weight, his age, the altitude of 9000 feet and the high mortality of 35 to 40 per cent which prevailed during this epidemic, so I thought I'd take a chance and shoved him into the body hot air oven for 45 minute treatment. His pneumonia was aborted and he was able to dress and leave the hospital three days later.

I might also mention that we usually had several miners in the hospital under treatment for rheumatism and that the body hot oven was very popular with this class of patients.

At a meeting of the Colorado State Medical Association about 1907 a doctor from Cripple Creek reported that he put every pneumonia patient into a hot pack for 24 hours, sweating them good for 30 to 60 minutes and then gradually taking off covers but keeping them moist for at least a day.

Twelve years ago while in New York City taking a special course in electrotherapy under Dr. William Benham Snow, he told me of a case he saw in consultation. The woman had a severe general streptococcic infection and was in a moribund condition. The end was certainly not many hours off. Dr. Snow suggested that she be placed in the body hot air oven and given a half hour treatment. The following day the patient's temperature was normal and she made a rapid recovery. We have all seen just such marked improvement in desperate cases of diphtheria following the administration of a large dose of diphtheria antitoxin.

When we think of the great activity induced in the skin by such an oven treatment and in the light of facts already brought out in this study; the quantity of antitoxin that must have been produced by the skin through this form of thermotherapy is evident and offers about the only rational explanation of the results in these two cases.

Dr. Alfred F. Hess, College of Physicians and Surgeons, New York City, believes that since either sun baths or cod liver oil will cure rickets, and since animals fed on a deficient diet which will produce rickets, do not develop this disease if they have abundant exposure to the sun, therefore the sun exposures either produce or activate vitamines.

Dr. Jesionek of Liepzig presents evidence that the main factor in the therapeutic action of the light rays is the pigment found in the epidermis under their influence; not the pigment inside the cells, but the excess of pigment granules formed and thrown off by the cells. His assumption is that certain substances are

formed in consequence of the action of light on the skin, and that the excess of these substances gets into the circulation and thus reaches in time the tuberculous foci and acts on them. He does not ascribe a therapeutic action to the stable pigment, but to that which gets into the circulation. The way in which the tanned skin tends to recover its whiteness when it is no longer exposed to the sunshine, testifies to the rapidity of absorption of the pigment. There can be no doubt, he states, that this absorbed pigment has more or less of an influence on physiologic and pathologic processes in the body. Negroes as well as whites generate more pigment under exposure to sunlight, and the excess is absorbed just as in whites. Removed from their natural environments and exposure of the body to the light, negroes no longer generate the supply of pigment to which the cells have been accustomed. This may be the cause for the peculiar susceptibility to tuberculosis of the negro race in civilization.

Experimental research will help to solve this question. He says further that attention should be paid also to the fact that white individuals of a pronounced brunette type, and hence with greater pigment-producing faculty, acquire tuberculosis less frequently than blondes, whose skin does not generate pigment so readily. For these and other reasons cited, he ascribes to the melanotic pigment of the epidermis decisive importance in the success of heliotherapy.

Professor Leonard Hill of England is an authority on heliotherapy. The following is taken from the abstract of an article entitled, "Metabolism of Children Under Open Air Treatment": "Observations on metabolism of children, crippled with surgical tuberculosis, and lying fixed in splints on a bed and more or less nude, are described by Hill and Campbell. Their metabolism on the average was increased 40 per cent above the standard, for the same weight, of children confined in a closed calorimeter." Children who had been treated for many months showed high metabolism in the out of door conditions, those who pigmented well in the sun giving about the same figures as those who did not pigment well, after making allowance for weight.

These writers do not take up the question as how the metabolism is increased. As already indicated, we believe the internal secretion of the skin stimulates the thyroid and other glands and thus metabolism is raised 40 per cent.

From the article on "Radiotherapy of Tuberculosis," which appeared in a Berlin journal, we quote the following. The writer, Dr. Da La Camp, exclaims: "We are all children of the sun. The entire organic life of our planet is conceivable only in connection with the central sun source of light and energy, and it is amazing that the worship of the sun in primitive religions and the helioses of the Greeks the solarium of the Romans and the sonnenheil mountains of the Germanic tribes have been so little heeded and actually forgotten for so many centuries. From custom, from indolence, from fashion and from the example of other human beings, we have shut off the skin more and more from the health-bringing sunlight.

"Sunlight, radium, and the roentgen rays act by arousing and strengthening the natural defensive forces and directing their energy toward the foe. It is not a specific mode of treatment, and it profits by all effectual adjuvants of any kind, tuberculin treatment in particular, as the aim of ray treatment is after all to induce a toxin-proof condition by an autotuberculinization. We are merely returning to the empiric heliotherapy of the ancients. "Sol est remediorum maximum," wrote Pliny the elder.

I will quote a few sentences from Dr. Francis M. Pottenger's paper entitled "Heliotherapy and Its Special Application to Pulmonary Tuberculosis." He says: "While micro-organisms are unfavorably influenced

by light, living organisms, which are infected by them, are favorably influenced by it, in withstanding their deleterious effects, and are aided in throwing off infection. This has been proven, by comparing the effects of bacteria on animaals left in the dark after infection, with those kept in the light."

"The action of light on animals is a very complex one. As a result of the light bath the superficial vessels of the skin are dilated, bringing large quantities of blood to the surface which absorb the light energy, resulting in changes in the amount of hemoglobin and increases the number of corpuscles. Light energy is also transmitted to the blood elements, increasing their fluorescence. Thus light is able to transmit energy to the blood which stimulates every vital function of the body."

"It has been shown that hemoglobin gives off its oxygen more rapidly in the light than in the dark, consequently light augments the oxidizing power of the blood."

Several writers have spoken of the value of sun baths in reducing overweight.

"The relation of ultraviolet rays to lipoids is peculiar in that rays sensitize them and prepare them for oxidation or fermentative decomposition. By facilitating the decomposition of the lipoids, an intracellular oxidation occurs without any additional oxygen from outside."

"Muscle contraction is stimulated by light, and animals are enabled to do more work when they live in light than in the dark."

"The hibernating animals wisely choose the dark for their winter home, and thus live with the least expenditure of energy."

Our own Dr. Mary Neff in a paper on "Mental Symptoms Associated With Renal Insufficiency," reports the following case, which, while it does not bear directly on the subject of internal secretion of the skin, is pertinent in this connection:

"Case 7. An interesting feature in this case was the following: In order to increase elimination, electric light cabinet baths were ordered. The urine at this time was of extremely low specific gravity, 1003, with total nitrogen 3 per cent. The perspiration was twice collected and analyzed, showing a specific gravity of 1008 and 1009, and total nitrogen .9 per cent. This indicated that the functioning of the skin was for the time greater than that of the kidneys, thus bearing out the claim of some observers that the skin is able to take on a vicarious function in cases of this kind. The remarkable benefit resulting from the treatment was in accord with these findings."

It is quite generally agreed that to break sweat every day by physical exercise is conducive to good health. Simply one way of increasing the skin's activity. My two boys have shown splendid and rather exceptional physical development. I believe that the taking of a cold shower every morning, which stimulates the thyroid has been an important factor in their robust health and this splendid physical development.

In closing we desire to call attention to the facts that many forms of therapy have their chief effects upon the skin, sun baths, mercury vapor light bath, Russian baths, Turkish baths, mud baths, local and body packs, electric tub baths, static spray and friction spark, certain galvanic and high frequency treatments, salt rubs, oil rubs, alcohol rubs, painting the skin with iodine, a long list of liniments, rubifacient ointments, plasters and poultices, all of which act primarily upon the skin, its circulation, and its sensitory nerves. If we come to think of the skin, as a great gland made up of several strata, namely, the corneum, lucidum, granulosum and mucosum, with its 60,000 miles of capillary tubing, as producing antitoxins and internal secretions, highly important and essential to health, these forms of therapy have a new and less empirical standing as remedial agents.

A sealskin coat or a broadcloth coat is not nearly so valuable to the wearer as is a coat of tan.

SOMNOFORM

H. T. SAFFORD, M. D., El Paso, Texas.

Somnoform owes its origin to the efforts of Dr. George Rolland of the College of Dentistry of Bordeaux. Dr. Rolland was in search of a highly volatile, highly diffusible anesthetic which might be taken up and given up much as is oxygen by the blood stream. After much experimentation, a mixture of ethyl chloride, ethyl bromide and methyl chloride was selected. In this mixture each of the several ingredients has a special function. To the exceedingly volatile methyl chloride rapid induction of anesthesia is ascribed. The ethyl chloride, which constitutes the bulk of the compound, deepens the anesthesia so quickly secured, while the part played by ethyl bromide is to impart a smoothness to the induction and to prolong an available state of analgesia, as the condition of anesthesia wears away.

The earlier preparation of somnoform, while undoubtedly successful in the expert hands of Dr. Rolland, proved to be a none too safe admixture to give to the general public, where it is necessary that any anesthetic shall have a great margin of safety, even in the most unskilled administration. The original formula was said to contain 5 per cent of ethyl bromide, and to this element in the mixture was imputed the slight danger that existed.. After several modifications, the present formula of ethyl chloride 83 parts, methyl chloride 16 parts, and one part of ethyl bromide, was finally adopted and has been marketed as such for quite a number of years.

Somnoform is prepared only by Rosseau in France. It differs from all other general anesthetics in that it is not adapted to cases requiring long continued narcosis. On the other hand, for surgical procedures of brief duration it is without a rival. The rapidity of induction, the depth of anesthesia, the absence of nausea usually, and non-cumbrous apparatus for its administration make somnoform the ideal anesthetic for tooth extraction, tympanum paracentecis, opening abscesses and many other minor operations.

In tooth extraction, where the mask is removed as soon as anesthesia is complete, it is often possible to secure from a minute and a half to nearly two minutes of available operating time. An apparatus has been devised, whereby somnoform may be administered through a nasal mask to produce a continuous analgesia, or obtunding degree of anesthesia, for the purpose of working upon sensitive teeth.

For this purpose, however, I do not consider somnoform the equal of nitrous oxide-oxygen.

In tooth extraction, paracentesis of the tympanum or any operation where so desired, the patient may be placed in a sitting posture. But my experience has taught me that certain cases show some tendency to syncope after such operations. So it is my invariable rule to put the patient in the horizontal position immediately after the procedure.

The list of minor surgical operations for which somnoform is available is a long one. Ordinarily, for operations which may be expected to last more than ten minutes, some general anesthetic other than somnoform should be chosen, although there are no hard and fast rules. On several occasions I have given somnoform for a much longer period, once continuing it for half an hour without even causing nausea.

Somnoform is peculiarly applicable to the opening of the chest wall in pleural empyema. In this operation, nitrous oxide-oxygen may be dangerous if much obstruction to breathing is present.

Weak anemic patients take somnoform readily and seldom show any change of color or degree of depression. Alcoholic, nicotinic, plethoric men take somnoform rather badly,

as indeed they do any anesthetic, with a great tendency to rigidity and stertor, the latter to such a point that they become very much cyanosed; the same thing sometimes occurs under ether. A full appreciation of the type of patient in hand, and a greatly increased air supply while pushing the anesthetic, should obviate most of this stertor. In alcoholic, athletic or plethoric people, somnoform finds a special application, which my experience has shown me to be of great value, and which I have not seen mentioned in any article upon this subject. When a patient is an alcoholic, in fact or in behavior, he will often begin fighting and struggling, and will refuse to quiet down under liberal administration of ether. In such cases the application of a second 5 cc. of somnoform will so quickly narcotize the patient that ether may then be continued without further difficulty. It requires some judgment and a liberal admixture of air in order to avoid stertor in these cases, but the resulting tranquillity is prompt and enduring, and this is a matter of importance when the patient in his struggles may rupture an over-ripe appendicular abscess or do himself other harm. In these cases somnoform is more promptly effective, and I believe much safer, than the chloroform or chloroform mixtures to which we used to resort in the old days.

Somnoform is the most rapid in action of any anesthetic in general use, and for this reason lends itself admirably to the induction where ether is to be used throughout the operative procedure. In the administration of somnoform the best results are obtained where a certain definite plan or technic is followed. Of first importance is to allay fear if possible. Tranquil patients, as a rule, take anesthetics readily and smoothly. Terrified patients seem to carry their fear into the subconscious state with resulting continuous physical protest. Many nervous patients object seriously to having the mask held down continuously on the face; as they express it, they feel as if they would smother. In order to dispel this fear, it is my custom to assure the patient that the mask will be frequently removed from the face to allow him plenty of air. After a few interruptions, the patient is usually so far narcotized that the anesthetic may be then pushed to its full effect. Automatic breathing, beginning rigidity, or a slight snoring indicates full anesthesia. Ether may now be given in concentration, pushing it as fast as the condition of the patient will allow, but always easing up and allowing air to meet laryngeal protest.

As to the safety of somnoform; this anesthetic has its advocates who believe that it is very safe,—that it belongs in the nitrous oxide class; others are not so enthusiastic.

The fact is that somnoform is often given by dentists or their assistants, nurses and others, many of them not specially trained in giving anesthetics and usually without untoward results. In expert hands the results should be still better.

The anesthetic that is fool-proof has not yet been discovered; certainly it is not nitrous oxide, in spite of its early high rating of freedom from mortality.

In summing up we would say that somnoform possesses the following advantages:

It is rapid in induction;

In depth it produces full anesthesia;

It is rapid in recovery;

It does not often produce nausea except in overdose;

It is readily portable;

It has a high rate of safety, but in this does not equal the nitrous oxide-oxygen.

Its disadvantages are:

Its tendency in certain cases to produce rigidity instead of relaxation, and its toxicity when too much is used.

Its limitation to short operations.

FOCAL INFECTION AND THE NECESSITY OF CO-OPERATION BETWEEN THE MEDICAL AND DENTAL PROFESSIONS IN ITS TREATMENT

L. B. CARY, D. D. S., Douglas, Arizona.

Focal infection, crowded as it is with pathological conditions ramifying from all important organs and tissue structures, of which only a trained mind, backed by facilities for exhaustive laboratory experiments, can speak with positiveness, would not be my choice of subjects to present to you gentlemen. However, there is an increasing number of patients presenting for dental examinations, not forced to do so by an aching molar, as in the days of yore, but requested to do so by their medical adviser, who, during examination directed toward the causes of certain organic disturbances, has detected a mouth with teeth, tonsils or tissues under suspicion of being a contributory source of infection, and possibly a primary one, a consideration of importance. Of just how much importance is the question and essential reason for this paper, as in answering it the dentist and physician will necessarily exchange data for proper diagnoses.

Until a short time ago the principal field of the dentist lay in the alleviation of pain and the mechanical reproduction of broken tooth structures; his health problem was not broad and generally speaking he carried little responsibility. He had local pathological conditions to contend with and considered them purely local and their correction purely local. Through the work of Rosenow, Billings, Hunter and others the dentist's relation to the healing art was changed overnight; his alleviation of pain in a molar which very often involved the removal of tooth pulp, carried possibilities of cardiac lesions; pyorrhea mouth conditions possibilities of gastric and duodenal ulcers, appendicitis and infections of the gall bladder; caries of teeth reflected head pains and other related conditions, until now the dental aspect is secondary to the systemic as a preliminary to a mouth examination and plans for required work can be made. The examination of a stranger patient begins while being seated in the chair and stating the reasons for the consultation; the general physical appearance is first noted, whether we have a well-nourished, vigorous specimen of the human family or an undernourished, ailing specimen, the color, muscular action, age, etc., to which snap survey is added the patient's reasons for consultation, making a sum of valuable information to which may be added by direct questioning as examination progresses.

In the interest of this paper the patient now to be examined is one referred by medical counsel, who upon examination has found causes for systemic disorders and prescribed treatment, who has noted a generally unclean mouth condition and possibly a lack of tone or firmness to soft tissues which, in justice to his prescribed treatment, should be remedied. The dental examination begins in checking up general physical condition as patient takes the chair, e. g., a man of fifty, trifle overweight, of sallow color, a hesitancy in leg joint movement, a picture of one who, in his school years, had been above the average in athletics and school work, one who it would be reasonable to expect should have stored a reserve energy sufficient to carry him through life in health and who thoroughly expected this to be the case, but, in the last six months, had experienced periodic stiffness in his joints, sometimes accompanied with shooting pains in the back, which had somewhat shocked his perfect health serenity. Mouth examination discloses flabby gum tissue, some bleeding, tartar accumulations to ex-

(*Read, by invitation, before the Cochise County Medical Society, at Bisbee, Ariz., Aug. 4, 1923.)

tent of mild gum recession, stained teeth, cavities in bicuspid region, one involving the pulp, lower molar loosened and protruding from socket, sufficient to be out of line. The dental treatment is clear to a certain point, beginning with prophylatic treatment, including scaling, brushing and polishing, recommendations of daily astringent mouth wash in addition to usual mouth cleansing; extraction of loosened molar; filling of cavities with exception of that involving pulp, which to make comfortable will require pulp removal, canal treatment and filling, which in this day means the establishing of a future focus of infection. I say future, because I am willing to accept the absence of x-ray shadows, backed by the clinical condition, showing that the infected pulp area does not extend beyond the bulbous portion of tooth pulp, a condition which I consider favorable to devitalization and filling and which operation would be performed if diagnosis were made from a purely dental aspect; however, we have a patient who from all appearances should be in health, suffering with a stiffened knee joint, loss of color and pep, back pains, etc., all evidences of focal infection, sufficient cause for which must be found. Now, the question arises with the dentist: "Did the medical examination disclose a fair explanation of patient's condition in this particular case?" The medical examination probably would and the mouth consideration be secondary in importance, but this information would necessitate an exchange of data between medical and dental representatives, which would give each practitioner vital information and greater confidence that the patient was receiving a fuller consideration tending to mend his or her troubles. The necessity would be emphasized if the patient be one of the anemic class, with low hemoglobin count, blood pressure, etc., one whose health trials had been of long duration and a puzzle to the doctor to place the blame on any particular organ; that patient's condition would force a closer check and it would be advisable to extract two teeth instead of one if mouth condition were the same as in first patient; in addition the patient should have a full mouth x-ray to become a permanent dental record that future changes can be compared.

I, personally, feel that my first and greatest duty as a dentist, and in cases of doubt, would be to rebuild lost tooth structure after considering all the mouth relations, but you, with a knowledge of systemic conditions would indicate the mouth diagnosis and require removal instead of rebuilding tooth tissue.

It is impossible to discuss focal infection of the mouth without considering the status of the devitalized tooth, a problem which has held front-page discussions in dental journals during all of my practice, and before, and there is remaining material for discussion and everything for settlement. I believe it good practice to devitalize teeth, when there is no other way to make them comfortable and useful, when they are negative to the x-ray when the clinical aspect is favorable, when patient is in average health, when the operator is willing to spend more time than he will get paid for, as there is no other operation that requires greater skill than following the tortuous course of a fine root canal, enlarging it, and then forcing a filling material to the end, that will seal and make that canal moisture proof. If the operator can meet these requirements, he can devitalize teeth and the check on that operation that has been performed from two to ten years ago, when it was conscientiously performed, would leave the portion of failures small in number compared to the successes which are remaining in active service. The root operations of today are based on conditions revealed by x-ray and the instruments and filling materials are superior to those of former days. I have told you that it is good practice to devitalize teeth; now I want to

take the opposite stand and ask why we should devitalize so many teeth. If you and I, and the other fellow, will chase every six-year-old kid into a dental office there will be fifty per cent less of the devitalizing problem.

THE VALUE OF X-RAY EXAMINATION IN PULMONARY DISEASE*

W. S. LARRABEE, M. D., El Paso, Texas.

Conservative physicians and surgeons who are more or less unfamiliar with the findings and value of x-ray examinations in pulmonary conditions are interested in knowing how reliable are the findings obtained by this supplementary examination, and further, what lesions can be demonstrated by this method. There are many progressive diagnosticians who wonder how far they may depend on this method of examination. On the other hand, there are those who go to the extreme in their expectations; as well as those who are entirely unconvinced of its value, believing that the actual knowledge gained is insufficient to warrant its use as a routine procedure in cases in which pulmonary changes are in question. There are others who feel that their fingers, eyes and ears are all that they need in detecting abnormal lung changes, and that an x-ray is superfluous; others make extended use of this aid, and include it in all complete examinations of their pulmonary cases.

There are many physicians, painstaking and careful, who have had the experience in certain of their cases, of observing great discrepancy between their physical findings and evidences obtained by the x-ray screen and film findings, and this in spite of every effort to detect abnormal breath sounds, to elicit percussion notes, etc., in a patient whose complaint directs particular attention to the lungs. They have failed to find any signs that would indicate definite pathological changes, so that their surprise is great when abnormal shadows are shown which indicate lesions of the pulmonary structures. The report received from the x-ray examination in some of these cases is difficult to believe, particularly in some of the supposedly negative cases, when marked evidence of fibrous tissue increase with small cavities, calcified glands, etc., is present. With such experience, the careful diagnostician wonders if the x-ray evidence is reliable, but on further study learns that abnormal shadows occur only when increased tissue in the lung structures is present, and the normal appearance being known, that pathological changes can be detected with positiveness. Such experiences may serve to increase an already present skepticism, but if partially convinced, he begins to doubt his own ability to discover the actual lung condition present in these border-line cases. If he is open minded in his investigation he learns that the x-ray examination is of distinct value as an aid to him in his physical diagnosis of the lungs.

Physicians who have not become familiar with this method of examination, when referring their patients to the roentgenologist, are interested in knowing what procedure is regarded as a thorough and competent x-ray examination of the lungs and whether the ordinary flat-plate method is sufficient for a diagnosis. The answer to this last question should be that every examination should consist of a screen examination supplemented by stereoscopic films. Of these methods, one supplements the other, some of the points of diagnostic importance being determined by the screen, while other points are determined by a study of the films in the stereoscope. It may further be stated that a com-

(*Read beore the El Paso Co. Med. Soc. Sept. 3, 1923.)

plete examination of the pulmonary areas has not been made unless studied by both these methods. There are certain points which no plate will tell the diagnostician, such as the action or excursion of the diaphragm, or the aeration of the apices, whereas there are other points that do not permit of exact determination on the screen, such as slight infiltrations of the hili, etc.

The examination of pulmonary cases is made either in the horizontal or upright position, one or the other being preferred as may be the custom or method of the examiner. At times, however, the horizontal posture only can be made use of, where patients are bedridden, or unable to stand. But the upright position is essential, when fluid is present.

Stereoscopic films are to be preferred to the ordinary single film, which registers merely flat projection shadows. The stereo method is superior in that it brings into proper position and relation the various pulmonary structures which cast their shadows on the films, and thus a more correct view of the lesion is obtained. While the stereoscopic method is superior to the ordinary single film, it is true that many cases can be diagnosed correctly by the latter; but the double film should be the rule, and the automatic x-ray plate changing devices and tube shifters now enable one to make both exposures of stereoscopic plates in one second of time with fast films. Under such conditions, resulting shadows of the thoracic structures will be clearly defined and will be seen without the blurrings so often noted on the average lung radiograph.

Since the advent of the x-ray, the normal lung has now been studied by many investigators, and their conclusions are drawn from the findings of many series of normal cases carefully gone over by physical examination and pronounced without change. The contributions of Walsham and Williams gave us the foundation upon which later work has been done, the recent work of Dunham deserving commendation for being very thorough, although the work of the pioneers in pulmonary roentgenology still stands substantially correct as given by them. They have taught us that the normal lung, the apices and peripheral areas contain practically no shadows at all, and that as the hilum or root of the lung is approached, shadows are present, which increase in size and density as we near the mediastinal area, these shadows being due to the numerous blood vessels, lymphatics and bronchial structures, all of which branch and ramify, frequently cross one another, thus multiplying the densities of the parts and increasing the shadow. The normal diaphragm presents a smooth, sharply defined rounded outline, with the convexity directed upwards into the lung fields, the left being at a lower level than the one on the right. Normally the costo phrenic angles are very clear and are easily demonstrated on forced inspiration. This condition of the normal lung shadows has been confirmed by post-mortem examinations and by dissections carefully made, as well as by x-ray studies of injected lung specimens filled with opaque media. In cases of pulmonary disease also, the x-ray enables the examiner when properly skilled in interpretation, to detect infiltration, cavities, enlarged, caseated and calcified glands, peribronchial thickening, bronchiectasis, abscess, fibrosis, pneumothorax and fluid in the pleural sac, whether free or encapsulated. The location and extent of these lesions may be defined by the x-ray with a certainty and rapidity beyond the power of the physical examination to approach. The film remains an unimpeachable record for reference or comparison of cases.

One would be unwise to be swayed by the over-enthusiastic x-ray worker who makes extravagant claims for the infallibility of this method of diagnosis, or by those who make statements to the effect that the x-ray is all-sufficient in lung examinations.

On the contrary, this method occupies no niche of infallibility, nor does it displace other physical signs. It must be considered with them.

Having learned to know the appearance of the normal lung as revealed on the x-ray screen and plate, we find that certain pathological changes are demonstrated by departures and variations of the normal shadows. These changes are recognized by characteristic appearances of the lesion, which in most cases attacks the tissues in a different manner from other lesions. These abnormal shadows may range from a transparency, indicating presence of air, to a density, signifying a more or less solid mass, in the shadow of which all lung structures may be obliterated. These findings named and many more found in this procedure of examination are hard to differentiate and clinical findings and history should always be taken into consideration to arrive at an intelligent diagnosis in the many forms of pulmonary conditions that confront us.

Another question often asked, and that is more or less yet in dispute, is whether an incipient tuberculosis can be demonstrated by an x-ray examination. This depends partly upon what our conception of incipiency is. Many cases that are clinically diagnosed as incipient are found to be advanced when examined by this method. When shadows are found which represent tuberculous pulmonary involvement, the case is no longer an incipient one, even though the clinical aspect indicates it to be so. At times the only sign of incipient tuberculosis will be a lame diaphragm on the affected side or the hili may be noted to be very slightly increased, or the peribronchial shadows have a woolly outline, and are more in evidence than normal; or one apex fails to light up as well as the other. There may be a slight increase of shadows on one side of the lung over the other, which is seen to involve the peripheral areas or the small finer branching shadows may extend upwards into the apices. These are the signs obtainable by means of x-ray examination which, when taken together and carefully considered, enable us to diagnose incipient tuberculosis before it can be determined by any other method.

A word at this time will not be amiss regarding the referring of patients for x-ray examinations. Thoughtlessly, many physicians tell patients, "I want you to have an x-ray 'picture' made," of so and so. This leads the patient to think, in many instances, that he is going to pose for a picture the same as he would in a photographer's gallery, and he is often indignant because he is not given a beautiful photograph of himself, and there have been instances where such people refused to pay bills unless they got their "pictures," which they claim they paid for; however, this is not the case and has been so decided by some of the higher courts of the land. The roentgenograms properly belong to the roentgenologist, for this is his method of arriving at a conclusion or findings; a patient might as well ask for your stethoscope or blood-pressure apparatus, for they are things that you use in the same manner; if they are referred and told to go for an x-ray examination or study, they will expect to learn some facts about themselves without any thought of a "picture".

The physician who has referred his patient for an x-ray examination is entitled to a full, detailed report of the findings, together with whatever additional information is seen to bear upon the case, thus receiving the benefit of the roentgenologist's experience in such conditions. If the patient be examined by a skilled roentgenologist, the necessity for the referring physician seeing the picture is lessened. It is not proper for a patient to take the films to his physician for him to see; the information revealed by the films should be a direct communication between the roentgenologist and the referring physician, and not through the me-

dium of the patient. An x-ray examination is a medical consultation, and should be regarded as such by both physician and patient, and this consultation to be performed only by physicians having special training in this diagnostic procedure.

There is no serious danger that this method of examination will give us less reason to become proficient in the older methods of percussion, palpation, auscultation, etc. These will not become a lost art through disuse, but, on the contrary, the skill in the physical diagnosis of chest lesions which has been so highly perfected in the last century will make still further advance through the stimulus afforded by a more extensive use of the x-ray in pulmonary examinations.

THE PHYSIOLOGY OF REST IN PULMONARY TUBERCULOSIS*

DR. R. B. HOMAN, El Paso, Texas.

Perhaps the first remedial measure that the physician who is well versed in the treatment of pulmonary tuberculosis adopts with his patient, and the measure that is generally considered the most important of all, is rest. Ever since Detwiler, several years ago, discovered that patients who, for one reason or another, were unable to carry out the systematic exercise which he had been taught to prescribe for his tuberculous subjects, but who sat outside instead, improved more rapidly than those who were taking the exercise, we have had a growing appreciation of the value of rest as the most important curative measure in active tuberculosis. It is true that rest, like any other therapeutic agent, must be adapted to the individual case, the amount being based upon the extent of the infection, its acuteness and the effect of the absorption of toxins upon the patient in hand; but like the administration of quinine in malaria, it should be a routine measure, in some dosage, in all cases of active tuberculosis.

Those of us who are devoting our time to the study of the subject realize the importance of rest and we know something of its modus operandi; but we sometimes fail to realize that our patient would co-operate with us more readily and cheerfully in carrying out this phase of the treatment if we would impart some of this knowledge to him. Let us, then, consider a few of the ways in which rest does its work.

1. It promotes healing. Every kind of tissue requires rest to heal. If a bone is broken, it must be put up in a dressing which will not permit of any motion; otherwise healing takes place imperfectly. If an ulcer occurs on the soft tissues, any interference with the protective covering which nature places over it retards the healing. Now, lung tissue is not different from the other soft tissues in this respect. Healing takes place by the formation of a delicate fibrous tissue which may be seriously disturbed by slight extra effort on the part of the lung, such as deep breathing. Because of the fact that we must breathe to live, it is not possible to rest the lungs completely, but we can secure relative rest for them by resting the body, since in this manner the breathing is shallower and less frequent.

2. Rest conserves energy and strength. The disease tuberculosis always pulls the system down to a greater or less extent. To counteract this, one undertakes to eat additional quantities of the most nourishing food. Unfortunately, we can properly assimilate but a limited amount and consequently must conserve. If we exercise, a portion of the food that we eat must go to form the energy for this exercise. In other

(*Read before the El Paso County Medical Society, Sept. 17, 1923.)

words, it is used as fuel to generate the steam; whereas, in rest this food is stored up in the tissues, thus increasing the resistance.

3. Rest protects the heart and other organs. The toxins generated in tuberculosis act as direct poisons to the heart muscle, at first stimulating the heart action and increasing the rapidity of the heart beats, and later weakening the heart through overwork and direct muscular poison, resulting finally in cardiac dilation.

In like manner the toxins affect the stomach and the whole digestive apparatus. In fact, one of the earliest manifestations of tuberculosis is this disturbance of digestion and frequently the stomach specialist is consulted first and makes the diagnosis. Since exercise increases the toxemia, rest decreases it and thereby relieves to a certain extent the effect on the heart, stomach and other organs.

4. Rest diminishes the cough by decreasing the secretions in the lungs and by quieting much of the irritability of the nervous system.

5. It lowers the body temperature, since the temperature, too, is caused by the toxemia, and the toxemia is reduced by rest; and since a high temperature, or the toxemia causing it, usually interferes greatly with the appetite, rest, at least indirectly increases the appetite.

6. It lessens the danger of pulmonary hemorrhage. Now there is a lot that we do not know about pulmonary hemorrhages, but we believe that some hemorrhages result from the separation of necrotic lung tissue. If the patient is at rest when the separation takes place, it usually does so easily and without taking any tissue that is not necrotic. Whereas, if one is exercising, other tissue may be forced to separate with it and this is sometimes a portion of a blood vessel wall. Other hemorrhages come as a result of the thinning and dilation of the walls of a blood vessel, usually in a cavity where the normal protection to the vessel has been destroyed and the thin wall breaks. This is much more apt to occur, or at least the tear is apt to be larger, if the blood pressure is raised by exercise.

Thus we could enumerate a number of minor ways in which rest operates to encourage a cure, but these will suffice.

If I may be permitted to digress to some extent from my subject, I should like to make the following quotation, showing what real rest is and its importance, from an article in the Journal of Outdoor Life by our Major T. E. Scott:

"Many patients complain that going to bed makes them weak, but in reality it simply demonstrates how weak they are. Being put to bed could not possibly weaken any one and, if after being at rest a few days weakness is noted, it is the best possible proof that one should remain in bed. One can stay up and be about for a long time on his reserve strength (on his nerve) so that when he once gives up, the feeling of weakness is very pronounced.

It frequently happens that as soon as one finally gets in bed, neighbors and friends will, in their desire to make his lot easier, begin devising forms of entertainment and amusement for his entire waking hours. Reading, writing, knitting, basket-making, painting and even typing are suggested. To do any of these things at first will materially defeat the treatment. Even the visitors must be limited to the minimum. The tuberculosis patient needs nothing more than to be let alone. If he could be 'slid off' into a hole somewhere to have it out alone with his malady, there would be few who would not get well, particularly if they could be blessed with the ground-hog's disposition in winter.

"The very ability to outwit the 'bug' and to 'beat the game,' as they say, becomes one of the most interesting studies. With each point gained there is a feeling of great satisfaction and the desire to tackle other obstacles increases. There should be no let-up at any time and every ad-

vantage used to gain another. The tubercle bacillus takes no vacation, nor does it let up until completely defeated.

"Rest hours or hours of relaxation should be set aside by all patients, regardless of their stage, and observed religiously."

A CASE OF PYELITIS WITH ANOMALY OF THE KIDNEY*

W. R. JAMIESON, M. D., El Paso, Texas.

Male, aged 42, married, contractor, was referred by Dr. B. F. Clutter July 10, 1923, and presented the following symptoms:

1. Slight discharge from the meatus for two years past.
2. Loss of weight (15 pounds) in past three or four months.

Past personal history: Had scarlet fever in childhood, measles also. Has lost several teeth from pyorrhea.

Past Urological History: Denies venereal disease by name and by symptom.

Physical examination: T. 98; p. 78, full and regular; B. P., s. 124, d. 74. Head, neck and chest were negative. Abdomen: There was no tenderness over any of the abdominal organs. Kidneys showed no tenderness on fist percussion or palpation, nor was there any evidence of disease of the ureters on external examination. Prostate not enlarged. Catheterized specimen shows small amount of pus.

Cystoscopy: Usual preparation. Novocain 2 per cent to anterior and posterior urethra. On account of narrow meatus, meatotomy was performed. Cystoscope enters easily into the bladder. The bladder showed no evidence of disease. No. 6F. catheter enters easily to kidney pelvis on right side, but is obstructed on left side about 15 cm. from kidney pelvis.

P. S. P. appearance time: R. 4½ minutes; L. 4 minutes.

Ten-minute specimen: R. 5 per cent. L. 10 per cent.

Specimen from left kidney showed a small amount of pus, while that from right was normal.

Left kidney was injected with 7 cc. sod. iodid. 20 per cent solution and pyelogram made (see figure).

X-Ray Report: Left kidney shows two distinct pelves and an enlarged kidney. There are two ureters, one from each pelvis, which fuse about the level of the third lumbar vertebra.

Bacteriological Report: Cultures of urine from left kidney are sterile.

Impression: Inasmuch as patient had suffered from pyorrhea previously, it is probable that the pyuria is due to an old pyelitis of the left kidney in which the infecting organism had died out, leaving a chronic inflammatory condition that continued to secrete small amount of pus.

Treatment: Patient received five intravenous injections of neutral acriflavin solution, ½ per cent, each consisting of 20 cc., at five-day intervals, which cleared up the infection. He has gained in weight and feels entirely well.

(*Read before the El Paso County Medical Society, Sept. 17, 1923.)

Southwestern Medicine

Printed by THE ARIZONA PRINTERS, Inc., Phoenix, Arizona.
Published monthly for the Board of Managers of the four constituent societies.

VOLUME VII | OCTOBER, 1923 | No. 10

Editorial Staff

DR. WARNER WATKINS, Box 1328, Phoenix, Arizona.....Editor in Chief
DR. F. O. BARRETT, Mills Building, El Paso, Texas.....Associate Editor
DR. C. M. YATER, Roswell, New Mexico.....Associate Editor

MEDICAL AND SURGICAL ASSOCIATION OF THE SOUTHWEST

The usual medical and surgical clinics will be held in the mornings during the meeting of the Medical and Surgical Association of the Southwest in El Paso, in December. On the first day will be held miscellaneous clinics in hospitals and offices. The second morning will be devoted to surgical clinics at the hospitals. On the third morning medical clinics exclusively will be held at the place of meeting.

ST. LUKE'S HOME (Phoenix) IMPROVEMENTS

During the summer, while the patients of St. Luke's Home have been at the summer hospital in Prescott, extensive improvements have been made in the main plant in Phoenix, and the sanitarium will reopen for the winter season with one of the most modern and thoroughly equipped institutions to be found anywhere.

The central improvement has been the erection of the administration building, at a cost of about $15,000. In this building will be the general reception room, offices of the superintendent and medical director, file rooms, consultation rooms, x-ray department and store rooms.

Another very important improvement is the installation of a steam-heating system which supplies all the buildings on the grounds with steam heat and running hot water; this heating plant cost about $5,000.

The infirmary building has been entirely renovated and partly reconstructed; the removal of the administration department from this building to the new one permits of the care of several more patients in the infirmary. New nurses' room, diet kitchen and drug room have been built. The screen porch has been divided into sections, so that each patient will have a private section.

The kitchen has been rebuilt inside, large wood-stone serving and drain tables added, and the latest models of electric dish washers installed, supplied with both live steam and hot water.

The old nurses' home has been moved to a central position and rebuilt into a bungalow to accommodate five patients, having shower bath and private dressing rooms.

A nurses' residence has been constructed, on the extreme south end of the sanitarium property, to accommodate five nurses, each with private room and sleeping porch, there being a common parlor. This is in addition to the nurses' quarters in the infirmary, which is for those who are on duty there.

The sanitarium in Phoenix can now accommodate eighty patients, but it is their desire to take only about sixty at one time.

The growth of this sanitarium is a matter of pride and enjoyment to its many friends in Arizona. It is one of the notable achievements in hospital construction of that state. Started about 1906 with two or three small portable houses, it has been enlarged from year to year and its present commanding position among the sanataria of the west is a monument to

the untiring devotion and pertinacity of the superintendent, Rev. B. R. Cocks, who established the institution and has been its guiding spirit since.

The first clinical laboratory of the state was started at St. Luke's Home in 1911, and continued as the well-known Pathological Laboratory in Phoenix.

Artificial pneumothorax was first administered in Arizona, at St. Luke's Home, in 1912, the first three patients treated by this procedure being alive and well at this date.

Complement fixation for tuberculosis was done at the St. Luke's Home laboratory in 1912, using partial antigens supplied by Dr. Karl von Ruck.

DR. GUIDO RANNINGER

Dr. Guido Ranninger, of Oscuro, N. M., died in the Masonic Hospital, at El Paso, Texas, on Aug. 18th, following an operation for gallstones.

Dr. Ranninger was a graduate of the Rush Medical College, Chicago, class of 1890, and had practiced in New Mexico since 1908.

MARICOPA COUNTY (Arizona) MEDICAL SOCIETY

(Dr. W. W. Watkins, Reporter.)

The first meeting of the season for the Maricopa County Medical Society was held at the Professional Women's Club, Saturday evening, October 6th. Dr. Ross Moore, the well-known neurologist of Los Angeles, was the guest of the evening. Dinner was served at 6:30, and meeting called to order for business at 7:30.

Thirty-eight members and guests were present, as follows: Drs. Holmes, Neff, Brockway, F. W. Brown, Bailey, Hawkins, Jordan, Carson, Wintermuth, Vivian, Drane, Schwartz, Couch, Gudgel, Wylie, Smith, McIntyre, Reese, Mills, Fahlen, Felch, McNeil, Greer, Bakes, Stephens, Woodall, Wilkinson, Thayer, Thomas, Shields, Hagan, Shelley, Sult, Garrison, Harbridge, Eaton, Watkins and the guest of the evening—Dr. Ross Moore.

The application of Dr. Fred T. Fahlen for active membership was presented and he was elected.

Dr. Ross Moore discussed the group of conditions which are classed as "Encephalitis Lethargica", telling how from the condition commonly known as "sleeping sickness" a variety of related conditions have evolved. This evolution has not been in the nomenclature entirely, but there has been an actual development in the nature of the condition. There has appeared to be a definite migration of the infection, year after year, from the cerebrum to the basal ganglia, then to the medulla and cord and then to the peripheral nerves, so that we now have seven or eight syndromes which may be present in this condition; (1) sleeping sickness; (2) sleepless sickness; (3) basal ganglia syndrome; (4) cerebro-basal; (5) cerebro-myelitic; (6) cerebro-neuritic; (7) cerebro-medullary-neuritic.

Dr. Eaton presented a case of chronic encephalitis of the Parkinsonian type, who is under treatment at this time by Dr. Moore's recently described method of injecting the blood serum of the patient into the spinal canal , thereby aiming to supply immune bodies from the blood current to the involved nerve tissues.

The paper was discussed by Drs. Hagan, Neff, Fahlen, Smith, Mills. Drs. Smith, Neff and Mills had seen the case presented. Dr. Smith in the first attack, which began suddenly, and Dr. Neff subsequently when the encephalitis was fully developed. Dr. Mills wished to know whether the blood serum is applicable to acute cases.

Dr. Moore, in answering questions, described the differential points between catalepsy and Parkinsonian syndrome. He also stated that he had used the blood serum in cases as early as one week after onset with

excellent results. In fulminating encephalitis, where no immune bodies can be looked for in the blood, he had gotten no results.

Dr. Willard Smith described his post-graduate tour of the south sea countries and islands. His zeal to see the unusual led him to Tahiti, Raratonga, New Zealand, New South Wales (Australia), back to Auckland, finally to Suva in the Fiji Islands. The description of the journey and "sights" indicated that this was a post-graduate course in anatomy.

EL PASO COUNTY MEDICAL SOCIETY

(Dr. F. O. Barrett, Secretary)

Minutes of a regular meeting held at the University Club on Sept. 17, 1923.

In the absence of the president, who will be away for about six weeks, the meeting was called to order by the vice president at 8:02 p. m. There were present thirty-three members and one visitor. The minutes of the previous meeting were read and approved as read.

Dr. W. R. Jamieson presented an interesting case of chronic pyelitis, much in detail.

Dr. S. D. Swope presented a case of hypertension which responded to treatment in a very gratifying manner, and he feels he has reason to expect a permanent lowering of the blood pressure. Diagnosis: atheroma, fatty degeneration of the coats of the blood vessels.

A paper entitled, "Splenic Anemia," was given by Dr. O. Egbert, who treated the subject, with a recent case in view, from the medical aspect, and Dr. B. F. Stevens, who treated the subject from the surgical viewpoint, considering the same case. Discussion, which was brief, was entered into by Drs. Homan, Waite and Major Scott.

Dr. F. P. Scuster read a paper, "Post Nasal Tumors." In the short discussion by Drs. Waite and S. A. Schuster it was thought that the field had been quite exhaustively covered.

As unfinished business, the matter of amending the constitution to the effect of having weekly meetings was opened for discussion. Dr. Cummins asked that Dr. Werley present his amendment, which he did. Dr. Strong suggested that one meeting a month be devoted to social entertainment.

Dr. M. S. Holley's application for membership into this society was acted upon without dissenting voice. Dr. Homan made motion that he be accepted, which was seconded by Dr. Swope.

A letter from Dr. W. Warner Watkins to Dr. Hendricks, president, was read, which asked that Dr. Barrett, the secretary, be elected associate editor of Southwestern Medicine. Dr. Paul Gallagher, Dr. J. A. Pickett and Dr. C. P. Brown offered an amendment to add this office to the duties of the secretary-treasurer.

Dr. W. L. Brown offered a resolution for endorsement by the society, addressed to the mayor and city council, petitioning that body to eliminate from the newly proposed ordinance requirement of a Wassermann test in all food-handlers' examinations. There was liberal discussion, practically all on the side opposing the ordinance. The consensus of opinion was to the effect that the Wassermann reaction should be reserved for cases where deemed necessary and not subject all food-handlers to it. Motion for adopting of the resolution was made by Dr. Paul Gallagher and seconded by Dr. Paul Rigney. It carried with one dissenting vote, Dr. E. D. Strong.

Motion to adjourn was entertained at 10:27 p. m.

DIRECTORY OF OFFICERS 1923

ARIZONA STATE MEDICAL ASSOCIATION

President

HARRY T. SOUTHWORTH - - - - Prescott

Vice-Presidents

C. A. THOMAS - - - - - - - - Tucson
R. D. KENNEDY - - - - - - - - Globe
A. C. CARLSON - - - - - - - - Jerome

Secretary

D. F. HARBRIDGE - - - - - - - Phoenix

Acting Treasurer

C. W. ADAMS - - - - - - - - - Globe

Council

S. H. WATSON, *Southern District* - Tucscon
L. A. W. BURTCH, *Central District* Phoenix
A. C. CARLSON, *Northern District* - Jerome
PRESIDENT AND SECRETARY - - *Ex-Officio*

Medical Defense Committee

JOHN E. BACON, *Chairman* - - - Miami
F. T. WRIGHT - - - - - - - - Douglas
D. F. HARBRIDGE - - - - - - - Phoenix

National Legislative Committeeman

JOHN W. FLINN - - - - - - - Prescott

Committee on Public Health and Legislation

CHAS. S. VIVIAN, *Chairman* - - Phoenix
W. W. WATKINS - - - - - - - Phoenix
MARL L. NEFF - - - - - - - - Phoenix
FRED T. FAHLEN - - - - - - - Phoenix
R. N. LOONEY - - - - - - - - Prescott

Committee on Program and Scientific Work

FRED H. HOLMES, *Chairman* - - Phoenix
H. L. GOSS - - - - - - - - - Phoenix
E. W. PHILLIPS - - - - - - - - Phoenix

Committee on Medical Education

FRED H. HOLMES, *Chairman* - - Phoenix
W. V. WHITMORE - - - - - - - Tucson
JOHN W. FLINN - - - - - - - Prescott

Delegate to A. M. A.

To be elected at April Meeting.

EL PASO COUNTY MEDICAL SOCIETY

President.....C. M. HENDRICKS
Vice-President.....E. B. ROGERS
Secretary-Treasurer.....F. O. BARRETT
Librarian.....E. A. DUNCAN
Delegates....W. ROGERS AND J. H. GAMBRELL
Alternates.....J. W. LAWS AND G. TURNER
Associate Editor.....PAUL GALLAGHER

Board of Censors

F. D. GARRETT J. B. GRAY D. W. WRIGHT

NEW MEXICO MEDICAL SOCIETY

President

G. S. MCLANDRESS - - - - - Albuquerque

President-Elect

J. W. STOFER - - - - - - - - - Gallup

Vice-Presidents

D. B. WILLIAMS - - - - - - - Santa Fe
T. E. PRESLEY - - - - - - - - Roswell
P. G. CORNISH - - - - - - - Albuquerque

Secretary-Treasurer and Associate Editor

C. M. YATER - - - - - - - - - Roswell

Council for Three Years

F. H. CRAIL - - - - - - - E. Las Vegas
E. L. WARD - - - - - - - - - Santa Fe

Council for Two Years

P. M. STEED - - - - - - - - - Deming
P. G. CORNISH - - - - - - - Albuquerque

Council for One Year

H. V. FALL - - - - - - - - Albuquerque
J. B. WESTERFIELD - - - - - - - Clovis

Delegate to A. M. A.

FRANK E. MERA - - - - - - - Santa Fe

Alternate

L. S. PETERS - - - - - - - - Albuquerque

MEDICAL AND SURGICAL ASSOCIATION OF THE SOUTHWEST

President

R. D. KENNEDY - - - - - Globe, Ariz.

First Vice-President

J. R. VAN ATTA - - Albuquerque, N. M.

Second Vice-President

J. R. GILBERT - - - Alamogordo, N. M.

Secretary-Treasurer

HARRY R. CARSON - - - Phoenix, Ariz.

Board of Trustees

W. W. WATKINS, Chairman - - Phoenix
JAMES VANCE - - - - - - - - El Paso
M. K. WYLDER - - - - - - - Albuquerque

BOARD OF MANAGERS for SOUTHWESTERN MEDICINE

From El Paso County Medical Society:
DR. JAMES VANCE, *Chairman*
DR. H. H. STARK

From New Mexico Medical Society:
DR. TROY C. SEXTON, *Secretary*
DR. GEO. S. MCLANDRESS

From Arizona State Medical Association:
DR. JOHN W. FLINN
DR. D. F. HARBRIDGE

From the Medical & Surgical Association of the Southwest:
DR. HARRY R. CARSON
DR. R. D. KENNEDY

AN INSIDE VIEW OF THE DIFFERENCE BETWEEN INVESTING AND SPECULATING

By SAMUEL O. RICE, Educational Director, Investment Bankers Association of America.

The president of a young firm that manufactures biologics and pharmaceutical preparations was brought to me by a mutual friend the other day to obtain information as to floating a bond issue to finance his rapidly growing business. The mutual friend, a man of sound judgment and high integrity, vouched for the manufacturer, his thorough honesty and capability. The manufacturer's clear and comprehensive reports told further that he had an excellent, well-managed, prosperous business.

"We've made a good deal of money," said the manufacturer, "and put it back into the business, but in spite of everything we can do, we are, every day, more and more behind in filling our increasing orders. We've grown rapidly in our few years of existence and can keep on expanding at the same rate, but our opportunities are so great that I don't want to wait five or ten years in growing into them. We've got everything we need, except capital."

"Why don't you issue stock?" I asked. "You haven't anything to secure a bond issue properly, considering the large sum you need."

"I'd rather issue bonds," replied the manufacturer, "because I want to put every cent I can get into the business. It would cost at least 15 per cent, probably more, to put through a stock-selling campaign, naturally offering our stock to physicians and surgeons who know the value of our products. It would be much cheaper to issue bonds. Don't you see I'm trying to do everything for the best interests of the business? It's a safe proposition."

"Safe, as a good, fine business speculation," I answered, "but not safe as a bond issue. You haven't adequate security for a bond issue. Now, don't misunderstand my use of the term 'speculation.' By it I mean honest, competent, forceful and resourceful business enterprise, the thing that has built this country's prosperity. I don't mean gambling or wildcatting. But every business, no matter how sound and worthy, faces risks. Persons who would put their money into your business now would be taking risks. It would be a sensible, sound, fair risk, no doubt, to buy your stock. Your fine earning record and your apparent prospects indicate that you, in all likelihood, will pay handsome dividends. Your stockholders would be repaid for the risk of buying stock. They ought to have the reward. They would deserve it.

"But what pay would your bondholders receive for taking the same risk, if you could issue bonds instead of stock? You can't offer more than current rates of interest on long-time securities. You can't adequately secure the bonds."

"But I don't see where there's such a tremendously big risk in my business," objected the manufacturer. "Don't you believe my reports?"

"Absolutely I believe them. I think you are the kind of man who should be encouraged. I think your business achievements are splendid and your opportunities for development are excellent. I think you have as fine and desirable bit of speculation as I've seen in a year, and by speculation I mean the best kind of enterprise. But your business and every other good business unavoidably face risks, and you haven't any right to let bondholders incur such risks. I don't think one of your bondholders would lose a penny, but you haven't security that says that, and security is the thing that counts in a bond issue.

"You spoke of the advantages certain of your patents give you over competitors. Suppose some competitor gets hold of patents superior to yours? That's easily possible, isn't it? Further, as you cut into the business of some of these large, old competitors who are firmly established

and well financed they're going to give you a still harder fight. I don't believe anything like that will keep you from growing or prospering, but it might, and if it did, where would your bondholders be? They'd lose, wouldn't they? Yes, your stockholders would lose, too, but they would have taken the risk because of the large returns offered."

However, I passed the manufacturer's bond proposal on to members of the Investment Bankers Association of America without comment other than that I had thoroughly dependable information as to the manufacturer's high integrity and capability. His proposal was rejected. Subsequently he sold stock to several wealthy business men who saw the wonderful business opportunity the manufacturer had. They were men who could afford to take a business risk because of the greater reward offered. Had they been men of limited income, dependent on their own earnings I doubt if buying that stock would have been wise. Men of limited incomes who are dependent solely on their earnings should, in seeking to build up an independent income for themselves or their families, buy sound bonds. Only if they can afford to risk the possibilities of loss and to wait for dividends can they afford to buy stocks, and then only in good, honest enterprises.

The foregoing is one of the best examples of the difference between speculating and investing that I have seen in several months. Speculating is legitimate and desirable for men who can afford it, but you have noticed that, by implication at least, I have not included gambling and wildcatting, buying and selling on margins as speculation for the average man. Speculating is buying stocks, or anything else, which the buyer has sound reason to believe, either from experience or from dependable advice, will be profitable. Of course, there is speculative selling, too, but for the average man who is not a trader, speculation consists usually of buying into some honest, sound, promising enterprise. Investing consists of putting money into something, usually bonds, that are so well secured that payment of principal and interest are assured. Buying wildcat oil, flying machine, automobile, radio, patent device and other stocks at the invitation of a promoter whose integrity and business ability are not fully known is not speculating. It isn't even gambling. There's no risk about it—it is certain that the money is lost.

There is only one way for any man who is not a specialist in investment securities to invest safely or to speculate wisely. That is to deal with an investment banking house whose integrity and capability are proved.

SOUNDS LIKE SOME WE KNOW

Some years ago a physician in good standing in his county society and state medical association moved to another state. He was a Fellow of the American Medical Association. The county in which he located in the state to which he moved was not organized, but he affiliated with the state association and maintained his Fellowship in the American Medical Association. A few months ago this physician received a letter from the membership department of the A. M. A., inviting him to renew his fellowship, which had lapsed. In reply, he wrote the following letter, which in addition to its flash of humor, contains a moral for councilors and other officers whose duty it is to see that new societies are properly organized and that their membership is properly constituted.

American Medical Association, Chicago.

Dear Sirs:—Your letter on reverse side calls for a reply. You are under a misconstruction of the facts with regard to my affiliation with the American Medical Association. I joined the A. M. A. at———, ———., in the early 90's—I think about 1903. I was continuously a member until about 1911, for although we had no county medical society in ——— county when I came here, I joined the state society and continued my membership in the A. M. A.

The ——— County Medical Society was organized by a few drunken doctors and I refused to affiliate. The state society re-

fused to renew my membership without that affiliation and the A. M. A. refused to recognize me without credentials from the state society, and returned my money. But they asked me to continue the Journal, and I wrote them to go to h——. This they flatly refused to do, but continued to reside in Chicago. As I could see little difference in the two places, I did not further urge the change of residence.

Two of the doctors who excluded me from the ——— County Medical Society have since died of "D. T." I am now president of the society, with a nice clean bunch of fellows, and you are now willing to recognize me. I thank you!

—A. M. A. Bulletin.)

It is good to know that what seems to have been a sad situation has been redeemed and it is hoped that the writer of the letter, now the president of his county society, will appreciate now, if he has not before, that societies organized and chartered by a state association have to be officially recognized by the national organization. Of course, none but those whose names are officially reported by the officers of such societies can be recorded on membership rosters.

Dr. Earl Miller has been appointed Director of the Department of Experimental Medicine of Parke, Davis & Company, Detroit, to fill the vacancy following the death of Dr. Ezra Read Larned, who was the originator and organizer of this department and occupied the position as head of the department until his death. Dr. Miller was assistant to Dr. Larned for twelve years and has a wide acquaintance among medical men interested in clinical research work.

COCHISE COUNTY (ARIZONA) MEDICAL SOCIETY

(Dr. N. V. Alessi, Secretary)

The Cochise County Medical Society held its regular monthly session in the City Hall, Bisbee, Saturday night, Aug. 4, Dr. C. H. Lund, Acting President.

FOR INFANTS

A COMPLETE FOOD

Safe Uniform Reliable

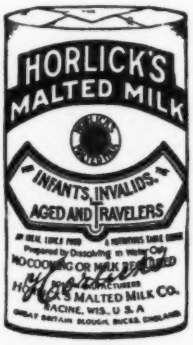
Concentrated nutriment of definite composition, easily digested and physiologically utilized.

Used by the medical profession for one-third century in the feeding of infants, nursing mothers, anaemic children, convalescents, invalids, and the aged.

SAMPLES PREPAID

HORLICK'S
Racine, Wis.

THE ORIGINAL
Avoid Imitations



Members present were: Drs. Bledsoe, Lund, Adamson, Greene, Reese, Cauzey, Strickland, Alessi, and Dr. L. B. Carey of Douglas, distinguished guest.

Minutes of the last meeting were read and approved.

Dr. Bledsoe reported a case, woman, 47 years old, with one child, never sick except laryngitis five years ago. Saw her on Wednesday of one week, had some gastric symptoms, nausea, dizziness, no temperature. Examination of abdomen negative, except enlargement of spleen. Next day pain in abdomen in region of gall bladder. Physical examination of heart and lungs negative. Every symptom pointed to the abdomen. There was a presence of fluid in either flank. Was having some pain and a little vomiting. Condition good, no temperature. The next morning condition progressively worse. Tem-

perature and pulse were normal. Looked intensely sick. Called in consultant. No further light was given as result of same. Was taken to the hospital. Barium meal was given. An x-ray film showed a filling defect in pylorus and possibility of rounded mass in costal margin and a finger-like projection in midline, hyperperistalsis. Patient was progressively worse. Advised exploratory laparotomy.

On Friday night condition same, but Saturday was called to see patient and found her in moribund condition. Picture of intestinal obstruction. Died twelve hours later. Autopsy, one gallon of bloody fluid in peritoneal cavity. Omentum cancerous. Cancerous nodules in the retroperitoneal cavity. Cancer of the right ovary, which possibly was the primary lesion; cancer of the omentum. Below the jejunum had a black gut for about thirty inches, showing embolic condition of the mesenteric artery.

Dr. L. B. Carey read a paper on local infection and necessity of cooperation of the dentist and physician. Paper was discussed by Drs. Bledsoe, Lund, Adamson, Greene, Reese, and Cauzey.

Motion made by Dr. Alessi and seconded by Dr. Lund that the Society express its thanks to Dr. Carey for his able paper by rising vote. Motion carried.

Motion to adjourn prevailed.

BOOK REVIEW

The Riddle of the Rhine. Chemical strategy in peace and war. An account of the critical struggle for power and for the decisive war initiative. The campaign fostered by the great Rhine factories, and the pressing problems which they represent. A mat-

Doctors---

When in need of any kind of printing forms, write, phone or wire

THE ARIZONA PRINTERS, INC.

Phone 6243 Phoenix Arizona

We print the "Southwestern Medicine."

ter of pre-eminent public interest concerning the sincerity of disarmament, the future of warfare, and the stability of peace. By Victor Lefebure, Officer of the Order of the British Empire (Mil.), chevalier de la Legion D'Honneur, Officer of the Crown of Italy, Fellow of the Chemical Society, etc. With a preface by Marshal Foch and an introduction by Sir Henry Wilson, Bart., Chief of the Imperial General Staff. New York, E. P. Dutton & Co. 1923.

No one can read this intensely interesting book without realizing the tremendous effectiveness of gas in warfare—75,000 of 225,000 American casualties were due to this agent. Nor can the reader fail to realize that war gas has come to stay. This means that future plans and provisions both for and against war must take into consideration the facilities for the manufacture of poison gas, a matter which centers in the chemical industry. Germany still leads the world in this respect, a "perpetual threat" against peace. The work is a convincing argument for national development and support of the chemical industry.

E. A. D.

CHAVES COUNTY MEDICAL SOCIETY

(Roswell, New Mexico)
(Dr. C. M. Yater, Associate Editor.)

At a meeting of the Chaves County Medical Society, held on the evening of September 11th, Dr. W. T. Joyner reported a case of tuberculosis complicated by diabetes mellitus which he is now treating with insulin and heavy nutrition with most gratifying results. Before he could get insulin his patient was in a very precarious condition, between emaciation and undernutrition, on the one hand, and acidosis and coma on the other. When he would limit the food intake on account of threatening symptoms from acidosis, his patient would lose weight and go downhill from the tuberculosis and when he would increase the food he would develop symptoms of acidosis, thus leaving him "between the devil and the deep blue sea."

These two antagonistic conditions continued until he finally was allowed to use insulin, when he found himself handicapped on account of not having adequate facilities for making blood-sugar estimations and the manner in which he met this difficulty exhibits a great deal of originality.

Nearly all, if not all, writers on insulin state that in giving the product blood-sugar estimations should be made every day in order to avoid hypoglycemia. Not having laboratory facilities, as above stated, he conceived the idea of so administering the insulin as to allow his patient to carry a low glycosuria all the time while feeding him liberally. By this means he avoided acidosis and coma on the one hand and provided sufficient nourishment on the other, still never allowing his patient to become sugar free in his urine at any time, thus avoiding the perils of hypoglycemia. By this ruse his patient is rapidly gaining weight and is in much better condition generally.

Dr. Joyner thinks this plan, in the absence of adequate laboratory facilities, may prove a safe way of handling this character of cases.

It was suggested by one member of the society in discussing the case, that possibly this patient had a very low sugar threshold which made it safe to allow him to carry sugar in his urine all the time; that possibly had this patient had a high sugar threshold, allowing him to show even a very moderate glycosuria might have resulted disastrously and eventuated in acidosis or coma from hyperglycemia; that we may have a fatal hyperglycemia without sugar showing in the urine at all. Such people have a high sugar threshold, and in this character of cases blood sugar estimations become an absolute necessity.

McKINLEY COUNTY MEDICAL SOCIETY

(Gallup, New Mexico)
(Dr. J. W. Stofer, Secretary)

After the summer recess of July and August, the staff of St. Mary's Hospital and the McKinley County Medical Society met at St. Mary's Hospital, Friday evening, September 7th.

The following phpsicians attended: Drs. Abrahams, Willson, Watson,

Washburn, DeLong, Hannett, Cantrell and Stofer.

The secretary of the staff, Dr. A. E. Dodson, having recently moved to Arizona, Dr. H. G. Willson was elected to fill the vacancy.

Dr. Hannett presented a specimen of carcinoma of the cecum recently removed from a man sixty-two years old, which required extensive dissection. There was, however, no apparent shock to the patient and he is progressing favorably ten days after the operation.

Sister Generosa reported that the Contagious Hospital was nearly completed and that a tag day would be put on during the Indian ceremonial in September to raise funds to complete the building.

Drs. Washburn and Cantrell each reported a case of typhoid, these being the only cases of typhoid reported to date this year in McKinley County.

This being the first meeting after the summer recess, there were no papers prepared. Drs. DeLong and Hannett were elected to read papers at the next regular meeting in October.

After the meeting the sisters served a much-appreciated lunch.

TUBERCULOSIS PREVENTORIUM IN ARIZONA

Some mention was made last month of the Tuberculosis Preventorium of the Arizona Anti-Tuberculosis Association, and the following detailed information has been supplied by that organization:

Eleven children were given two months' care at the Preventorium. Every child gained weight by the end of that period, the greatest gain in weight by any one child being 4 pounds 9 ounces and the smallest gain being 1 pound 8 ounces by a six-year-old boy. The total of the gains in weight by the eleven children was 26 pounds 14 ounces. The gain in weight, however, does not speak entirely for the improvement in the condition of the children. All of them, both boys and girls, showed by their color and their actions and

Extra Flavor

In the Oat Dish

In Quaker Oats we give the oat dish its maximum delights. For that reason, this brand the world over holds the premier place.

We use just the finest grains — the choicest one-third of choice oats. We get but ten pounds of such flakes from a bushel. But those ten pounds contain most of the flavor.

One dish of Quaker Oats with cream and sugar supplies:

Protein, 6.06 gms. Calcium, 0.048 gms. Fat, 8.93 gms. Phosphorus, 0.149 gms. Iron, 0.00132 gms. Calories, 220.

Based on these factors, under the system of Professor H. C. Sherman, the oat is rated at 2465, as compared with 1060 for bread.

Should not a food of such importance be served in its finest form?

Quaker Oats

Just the Premier Grains

BETZCO
SMOOTH TEX
Wood Tongue Depressors

Clear, close grained, firm and of standard size. Free from splinters and knots, remarkably pliable.

Metal Handle Free

Put up in handy packages of 500 blades with special metal handle free.

Frank S. Betz Co.
Hammond, Ind.

Send me sample package of 500 Smooth Tex blades with metal handle, 3CJ1139, for which I enclose $0.85.

Name .....Address .....

City .....State .....

speech that they had profited greatly by their stay at the Preventorium. Follow-up care will be given these children, now that they have been returned to their homes. This will be accomplished through the community nurses and with some of the balance on hand in the Preventorium Fund. Every effort will be made to see that these children do not lose the good results attained at the Preventorium.

Credit must be given to Mrs. Gertrude F. Russell, R. N., who had charge of the children. We were indeed fortunate to have secured the services of one who took such an interest in the welfare of each and every child and who devoted herself so wholeheartedly to their interests.

Following is a brief outline of the daily schedule observed by the children:

8 a. m.—Breakfast, consisting of orange juice or fruit in some form, cereal, toast, egg and cocoa.

8:30-9—Bed making and health chores.

9-10:30—Playtime, always under supervision of a nurse.

10:30—Glass of milk and graham cracker or bread and butter.

11:30—Clean up for dinner.

12—Dinner, potatoes, meat, either roast or stewed; green vegetable, salad, bread and butter, custard or other simple pudding, milk to drink.

1:30 p. m.—Story hour, each child lying on his cot. This was followed by rest until 3:15. Most of the children went to sleep, but if this was impossible, they were required to lie quietly on their beds during this period.

3:30—Glass of milk and graham cracker.

3:45-5:15—Playtime, varied by short hikes or drives.

5:30—Supper; bread and milk, or rice and milk, stewed fruit, cookies, and always all the milk they could drink.

7:30—Baths, so arranged that each child had three weekly, and bed time began with the smallest and was timed so that all were tucked in by 8:30.

The children were watched carefully and were not permitted to become overtired or overheated. Games and books were provided for bad weather, also a phonograph, for which a number of records were donated.

CORRESPONDENCE

The following copies of a correspondence is sent in by the El Paso County Medical Society. Its humor brought an hour of pleasure to the editor, and is offered our readers for their enjoyment:

Mr. C. B. Eddy, Esq.,
President El Paso & Northwestern Railway, Alamogordo, New Mexico.

Honorable Sir:

We, the Amalgamated Associated of Consolidated Lungers of New Mexico, port of Fort Stanton, commonly known as the Officers' Mess, take our pen in hand to indite you these few lines, which you may use to hang clothes on or fish with, whichever you may prefer. Each and every signer is a lunger, duly qualified to hold membership in our short-lived but gallant society, having met the requirements of cough, expectoration, hemorrhage, night-sweats, etc., laid down by the rules of the order. Sad as it may seem to one living in the gay metropolis in the limelight of civilization, progress and modern advancement, no member of our association has experienced the joy of witnessing, hearing and absorbing a theatrical performance in the last twelve months, one year ago being the date upon which our youngest member forsook the delights of society for the quest of health on the isolated plateau of New Mexico. But sadder yet, oh, much sadder, is the fact that some of us must, before many moons are born to blush unseen, traverse the unknown path to that great beyond where all good lungers go.

Trust you have borne with us gently and patiently till now, we will hasten to tell you where you come in. We desire you to cause to be issued to each and every one of us, or to the society as a body, certain paste-board credentials which will be honored by your train robbers—we should say conductors—for our travel to El Paso and return from Capitan. Our claim to the right to have this transportation is based solely and wholly on our blown-in-the-bottle, unadulterated, ninety-nine and forty-four one-hundredths per cent pure nerve, crust or gall, whichever you wish to call it (it makes no difference to us so long as we get the passes).

Before acting on this modest request we beg of you to consider. Think of the great service you, as the representative of a great and moneyed corporation, will be doing for a band of one-lunged semicomatose, one foot

MEAD'S

TOOLS FOR
INDIVIDUALIZED
INFANT FEEDING

The physician needs a special set of "tools" for infant feeding in order that his instructions will be faithfully carried out by the mother and that he will receive her complete co-operation and willing assistance.

These TWO ITEMS are important if the physician's talent is to have full scope.

Mead's "tools" are the kind that the physician has always wanted.

Please check off the items that interest you and mail this ad. to us.

Breast Feeding Pamphlet.
Baby Scales (description on request).
Weight Charts.
Growth Charts.
Prescription Forms.
Diets for Older Children.
Expectant Mother Literature.
Index of Corrective Diets.
Dextri-Maltose (Dextrins and Maltose).
Powdered Protein Milk (new process).
Casec (Calcium Caseinate).
Barley Flour (Sterilized).
Florena (Flour Ball).
Arrowroot (grown in Florida).
Dry Malt Soup (more handy than liquid).
Cod-Liver Oil (pedigreed and certified).

MEAD JOHNSON & COMPANY
Evansville, Indiana, U. S. A.

in the grave has-beens. Such an opportunity may not come to you again in a lifetime. Think with what a clear conscience you can retire to your more or less downy couch if you grant us this little boon. Think, oh, think, how, when that great day of beckoning comes, you can hold up your head among the elect and eloquently say: "I seen my duty and I done it."

We desire to assure you that you need not hesitate for fear of attendant casualties; we number among us four doctors, a minister and an undertaker, all of whom will travel with us. An extra coffin or two shall go on the same train, in "the baggage coach ahead," and our medical staff willl be supplied with the Murphy apparatus for stopping hemorrhage. Each member will go armed, as usual, with two spit cups.

We desire to go to El Paso on November 28 and return December 1, taking in while there the production of "R U A Mason?" If you can acquiesce in our little suggestion regarding railroad fare, you will be elected to honorary membership in our association and fondly spoken of and remembered while we live. Such a service could not be forgotten; our "esprit de corpse" would not permit it. On the other hand, as the man said when he changed cuffs, if you refuse, "We fear, very, very much, that, when we present ourselves at the ticket office of your great pathway of commerce at Capitan and the agent asks for money, it will be the first time in our lives we were ever unable to "cough up."

Should you find it in your heart to cause such pasteboards to be issued, we assure you that each and every one of us, while breath lasts, will do his utmost to cause all tourists leaving Capitan to travel over your line.

Hoping with all our lungs that you will do your modest share toward helping a little ray of sunshine to filter through the gloom into our dark and shadowy lives, we remain honorable sir, breathlessly yours,

J. ROSS THOMAS,
Imperial Hard Cougher, President.

Mr. J. Ross Thomas,
Imperial Hard Cougher,
Fort Stanton, New Mexico.

Unfortunate Sir:

I have received your most "touching" petition, and my admiration for unmitigated gall has never before been so fully inspired nor so thoroughly exercised. You appear to proceed upon the theory the mountianeer advanced when he refused fare to the conductor: "You've got up steam and you're going my way."

Now, there would have been nothing amiss in your asking a half rate, since possessing but one lung, you would be entitled to such consideration by the rules of the road. But the El Paso & Northwestern was built for your benefit. The stockholders of this soulless corporation would expect no greater joy than to realize that at last an opportunity has arrived to move your admirable association. It is the climax of the philanthropic motives that first led us to lay our steel upon the New Mexican desert.

Damage suits may come and go, trains may be ditched and snowdrifts abound, but such trifles may easily be forgotten in the delight of acquiescing in your polite and most artistic holdup.

We cough up, not bugs, but cardboard. Ride and rest easy. Promise that if the train is wrecked, and you are sufficiently shaken by accident to change the good lung over to the bad side, you will each and all sue the road for not less than $42,500 for personal damages.

Words are inadequate to express the pleasure we feel in complying with your request. We trust you will drink from the full cup of joy and that mirth is the only thing with which you will be filled during the brief moment you loiter in the dazzle of city life in El Paso.

For men who already feel the daisies growing over them, you seem a cheeerful association. Others could well emulate your example of calm yet mirthful resignation to the long journey you expect to take soon after your pleasant, though free, ride over our road.

You have so enthused us with admiration for the humane cause in which our road is operated that we regret we cannot, under present conditions, extend our line to the Pearly Gates in time to give you passes via St. Peter's turnstile. However, we trust you will make the most of opportunities such as you have for enabling corporations such as ours to continue in their noble missions.

Even a lunger may serve some purpose in life.

A man with one lung is an ideal "deadhead." He possesses such talent for getting something for nothing that he ought to breathe easy—but he doesn't. He will be the first to awaken when the great horn toots on the final day. He will ask for something before the last echo dies away, and he will get it. All things come to the man with a cough, and when he forms himself into an association he is invincible and irresistible. He is the only person in existence who can draw interest on an overdraft at the bank. The world stands aghast when he coughs, especially when he coughs "in his cups."

When grapes grow on thorn trees, and figs on thistles; when vinegar is sweet to a child, when water runs uphill, when the sun becomes an ice plant, when Russell Sage spends 30 cents, or Bryan is elected president, then will the lunger meet with the first denial of his request.

With the best wishes for a few days' prolongation of your lives, and hoping you may enjoy "R U A Mason" to the thirty-third degree of pleasure, I remain faithfully yours,

CHARLES B. EDDY,
President.

RADIUM *and* ONCOLOGIC INSTITUTE

1151 West Sixth Street, Los Angeles, California

A THOROUGHLY equipped institution affording unexcelled facilities for Radio Therapy and the scientific study and treatment of Neoplastic diseases.

RADIUM Laboratory possesses a large and adequate quantity of Radium, emanation apparatus and all necessary appliances, affording the most complete facilities for Radium Therapy. Also Radium emanation for internal administration in appropriate cases.

X-RAY department is fully equipped including the new 280,000 volt deep Therapy apparatus.

LABORATORIES completely equipped for clinical, pathological and research work.

HOSPITAL, offices, examining rooms, laboratories, and clinic located in the new fire-proof building.

This institution, through the correlation of its various departments and personnel, desires to cooperate with the Medical Profession in the diagnosis and treatment of appropriate cases. Your inquiry or request for specific information on any point will be welcome.

REX DUNCAN, M.D.
Medical Director

CALVIN B. WITTER, M.D.
Roentgenologist

EDWIN D. WARD, M.D.
Assistant Medical Director

T. C. CROWELL, M.D.
Pathologist

PERSONALS AND NEWS

Dr. C. C. Hedberg

Has recently located at Jerome, Ariz., on the staff of the United Verde hospital. Dr. Hedberg is a graduate of the College of Medical Evangelists at Los Angeles, and comes to Jerome from an interneship in the Los Angeles County Hospital.

Dr. A. E. Dodson

Formerly of Gallup, N. M., is supplying at the Swansea Mines hospital, at Swansea, Ariz., but expects to locate elsewhere in Arizona in the near future.

Dr. Elliott G. Colby

A graduate of the College of Medical Evangelists at Los Angeles, has recently located at Yuma, Ariz. Dr. Colby comes to Arizona after a two years' interneship at the Los Angeles County Hospital, and is associated in practice with Dr. H. D. Ketcherside at Yuma.

Dr. J. B. Van Horn

Who went from Mayer, Ariz., to Chicago for postgraduate work about a year ago, has returned to Arizona and located in Tucson, where he has been given charge of the medical work of the University of Arizona.

Dr. A. E. Cruthirds

Of the Copper Queen hospital staff, Bisbee, Ariz., was in Phoenix the first week in October, for the state board examination. Dr. Cruthirds comes to Arizona from an interneship in the Charity Hospital a t New Orleans, after graduating from Tulane University.

Dr. R. Z. Walsh

Formerly of Jerome, who has been away from Arizona for a year or two, has returned and is again connected with the United Verde hospital staff, being located in Clarkdale.

Dr. Mary L. Neff

Of Phoenix, Ariz., who has been spending the summer on the Pacific coast in various medical centers for special work in her specialty, has returned to Phoenix and resumed her practice.

Experience is a dear teacher

but

A Successful experience is a diploma from the greatest University in the World

AN EXPRESSION OF SATISFACTION, WHICH IS EVIDENCE OF A SUCCESSFUL EXPERIENCE WITH SPECIALIZED SERVICE.

The Medical Protective Co.,
Fort Wayne, Ind.

Dear Sirs:

Your favor of the 12th at hand. I am more than satisfied with the manner in which you have handled this case. The mental and physical relief afforded a holder of your protective policy in the time of stress, when suit is filed, when the trial is on, is of itself worth over many times the cost.

This is the first and only case I have had in an active practice of thirty years and I had no thought that the "lightning" would strike me, I being immune for so many years.

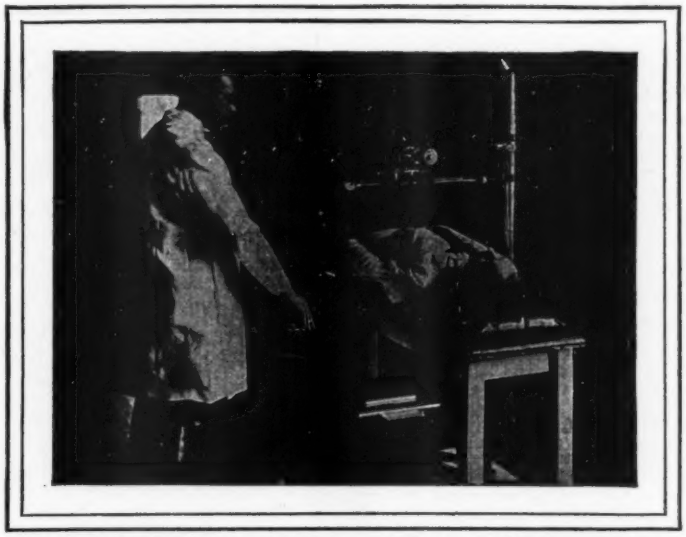
Very truly yours,

THE MEDICAL PROTECTIVE COMPANY ARE THE ORIGINATORS, DEVELOPERS AND IMPROVERS OF MALPRACTICE INSURANCE, WHO HAVE HAD THE EXPERIENCE OF OVER 24 YEARS IN BUT THIS SINGLE LINE OF LEGAL ENDEAVOR, AND THE SUCCESSFUL EXPERIENCE OF HANDLING OVER 16,000 CLAIMS AND SUITS.

A RECORD WHICH KNOWS NO COUNTERPART.

Rates and specimen copy on request.

The MEDICAL PROTECTIVE CO. of Fort Wayne Indiana



The Victor Stabilized Radiographic and Fluoroscopic Unit. A practical diagnostic outfit for an initial installation, around which additional equipment can be added as the requirements increase.

As the Practice Grows So Grows Victor Equipment

Victor X-ray equipment, like a sectional bookcase, is composed of standardized units. As the roentgenologist's or physician's practice becomes more specialized, as his technical requirements broaden, he does not discard entirely his long-tried Victor equipment for lack of applicability to his growing needs. He simply installs the additional Victor units needed.

Because of this policy of standardizing as far as possible, a unit system of design, very little Victor apparatus must be discarded because it no longer meets the needs of the day. The physician keeps himself abreast of the advance in roentgenology with the least possible expense.

This Victor system of design and construction, supplemented by Victor research, makes it possible for the specialist and general practitioner to begin with the simplest apparatus and, as his requirements increase, to add to his equipment — without discarding his entire original installation.

Most Victor X-ray apparatus may, therefore, be regarded as a permanent investment.

VICTOR X-RAY CORPORATION, 236 South Robey St., Chicago, Ill.

Territorial Sales and Service Stations:

DALLAS, TEXAS: 2503 COMMERCE STREET
LOS ANGELES, CALIF.: 951½ S. OLIVE STREET

VICTOR

PERSONALS AND NEWS

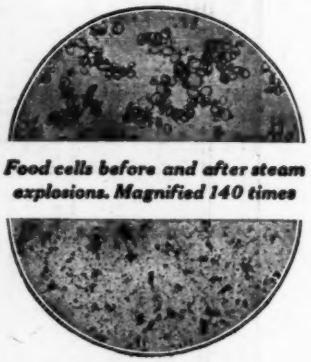
Arizona State Board of Examiners Held their first meeting, since reorganization, during the first week of September, examining several applicants to practice in Arizona. Dr. H. T. Southworth, of Prescott, is president, and Dr. W. O. Sweek of Phoenix, secretary of the board.

Drs. K. D. Lynch and Wm. White, of El Paso, Texas, stopped off in Roswell, N. M., the night of Sept. 11th, en route by automobile for Kansas City and Denver.

Dr. L. A. W. Burtch, until recently located in Phoenix, is now in charge of an industrial hospital at Pachuca, Hidalgo, Mexico. He was recently heard from as a guest of the Rotary Club of that prominent city of Mexico.

Dr. B. E. Galloway, formerly of El Paso, writes from Aguascalientes, Mexico, where he is now located, expressing his appreciation of the touch which Southwestern Medicine gives him with the profession of the United States.

The New First National Bank Building of Albuquerque, N. M., now houses a large portion of the medical men of that city. This is a very fine and modern building, and the doctors occupy the third to sixth floors. Among those who have offices in this building are the following: Drs. J. R. Van Atta, L. G. Rice, M. K. Wylder, P. G. Cornish, Sr., P. G. Cornish, Jr., R. L. Hust, E. C. Matthews, G. S. McLandress, J. A. Reidy, L. B. Cohenour, Carl Mulky, H. L. Brehmer, E. E. Royer, W. M. Sheridan, W. R. Lovelace, E. T. Lassetter, W. H. Woolston, F. F. Fadeley, Walter Hope, C. C. Meachem, W. A. Gekler, W. E. Scarborough, H. P. Rankin, C. C. Davis. The suites for the doctors were especially built and equipped with every modern convenience for their work, thus filling a need which has long been keenly felt by the medical men of Albuquerque.



Food cells before and after steam explosions. Magnified 140 times

Whole Wheat

Steam Exploded

Quaker Puffed Wheat is whole wheat steam exploded. The process was invented by Professor A. P. Anderson, formerly of Columbia University.

Over 125 million steam explosions are caused in every kernel. The food cells are thus broken for easy digestion.

The grains are puffed to 8 times normal size. They come out airy tidbits, thin, flaky, crisp and nut-like.

Thus whole grains are made tempting. Puffed Wheat in milk supplies minerals, vitamines and bran in a delightful form.

Quaker Puffed Rice is rice grains puffed in like way—a delicious food confection.

No other process so fits grain foods to digest.

Quaker Puffed Wheat
Quaker Puffed Rice

There's room for Corona on *your* desk!

CORONA is happy in a space only ten inches square—it doesn't ask for a special desk—it fits in anywhere!

And, what is more important, it consumes none of your valuable time in tinkering, fussing, sending for the repair man.

Here's what two owners say—there are 500,000 more who can tell you the same story of *proved durability*.

"I bought my Corona seven years ago. It has traveled in every State in the Union and has been in the repair shop only twice in that time." Robert A. Athon, Denver, Colo.

"During the seven years I've had this machine I have not had it repaired once. All the upkeep it required was a regular cleaning and oiling." J. H. Tolkowsky, Antwerp, Belgium.

CORONA

The Personal Writing Machine

REG.U.S.PAT.OFF.

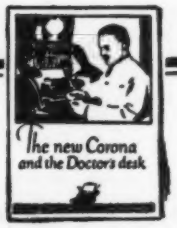
Mail this coupon for a copy of our new folder, "Corona and the Doctor's Office."

Corona Typewriter Company, Inc.
Groton, N.Y.

Please send me Folder No. 66.

Name .....

Address.....



Dr. Mackenzie's Ink Polygraph

PULSE WAVE RECORDER

"DRESSLER MODIFICATION"

Patents Pending

Mackenzie Ink Polygraph "Ready Set Up" Model, always installed for immediate use.

The only American-made Polygraph with three tambours, permitting three simultaneous tracings.

Some Distinct Features and Advantages of the

MACKENZIE INK POLYGRAPH
("Dressler" Modification)

1. It is a substantial and practical recording machine.
2. It is made like a chronometer, accurate and with highest precision.
3. Every part is of American manufacture, easily replaceable at minimum cost.
4. "Ready Set Up," ready for use without any loss of time.
5. Three tambours, therefore three simultaneous tracings.
6. Tambours provided with friction joints.
7. Fine adjustment of tambours or pen levers, respectively, by micrometer screw.
8. Pen levers are balanced by torsion spring device.
9. The required tension of the torsion spring is facilitated by a sensitive screw adjustment.
10. New material for membranes—more durable than rubber dam, especially for southern climates.

Literature Upon Application

PACIFIC SURGICAL MFG. CO.
320 West Sixth St. Los Angeles

PERSONALS AND NEWS

The X-Ray Department of the Deaconess Hospital, Phoenix, has been completed, being now equipped with a Wappler Duplex transformer for therapy and diagnosis, with all the necessary accessories for both kinds of work, including a portable apparatus for use throughout the building.

Dr. J. B. Westerfield of Clovis, N. M., spent the month of September in Louisville and other points in Kentucky.

Dr. C. L. McCleland, who was to have entered the Public Health Service as full-time health officer of Eddy County, was compelled to defer the appointment on account of impaired health. He has gone to southern Texas to recuperate.

Dr. B. McKall has severed his relations with the A., T. & S. F. Hospital at Clovis and is seeking a location elsewhere.

Dr. G. K. Maynard and family of Clovis have just returned from a two weeks' vacation in the White Mountains.

The Curry County Medical Society held their regular monthly dinner at the Gran Quivera Sept. 14th, at 7 p. m., after which an executive session was held. Many problems of interest to the profession were discussed. The dinner and meeting were well attended and the usual spirit of good fellowship prevailed. Plans were outlined for interesting meetings of the society for the coming winter months.

The Baptist Hospital at Clovis, N. M., is making improvements in the present plant and contemplates the erection of a nurses' home in the near future.

Dr. G. N. Harsh of Melrose, N. M., was in Clovis recently on professional business.

Dr. J. Foster Scott of Clovis, N. M., who has been in ill health for several months, is slightly improved.

USE ONLY ON ORDER AND UNDER
SUPERVISION OF A LICENSED PHYSICIAN
HE WILL GIVE YOU INSTRUCTIONS. TO
MEASURE OUT POWDER USE ONLY
S.M.A. MEASURING CUPS (2 OZ. OR
3 OZ. SIZES) ASK YOUR DEALER FOR
THEM. TO PREPARE S.M.A. USE ONLY
WARM BOILED WATER. MAKE EACH
BOTTLE FRESH. KEEP BOTTLES AND
NIPPLES CLEAN BY BOILING. DO
NOT USE S.M.A. IN CASES OF DIARRHEA
PRICE $ 1.20

S. M. A.

To be used only on the order of physicians. For sale by druggists

Requires only the addition of boiled water to prepare

Formula by permission of The Babies' Dispensary and Hospital of Cleveland

The Results are Smiles

THE best way to sum up the results of feeding S. M. A. to infants deprived of breast milk is to say that the results are smiles.

Nobody knows so well as the physician how important happiness is as an indication of well-being in his little patients.

S. M. A. babies are uniformly happy because they are uniformly well. They grow and develop normally, and are normally free from rickets and spasmophilia.

The key to this result of happiness may be found in the fact that thousands of physicians are feeding S.M.A. to normal, full-term infants varying in age from a few days to one year or more, *without any qualitative change* whatsoever. In other words, S. M. A. could not be so used unless it resembled breast milk in all important respects.

Incidentally, the smiles produced by S. M. A. are not confined to the babies. They are shared by the physician, pleased at the assistance which S. M. A. gives him in his work, and by the parents, whose smiles are of gratitude to the physician.

We do not distribute samples of S. M. A. broadcast to the medical profession, but to any physician who wishes to observe results in his own practice, we send a supply sufficient to enable him to do so. Please address:

THE LABORATORY PRODUCTS CO., 1111 Swetland Bldg., Cleveland, O.

A FOOD TO KEEP BABIES and YOUNG CHILDREN WELL

Adapted to Mother's Milk

Pertussis
Glycerol Vaccine
Lederle

CONTAINS the bacterial protein of the Bordet bacillus with its original antigenic properties relatively unaltered.

It is supplied undiluted; each vial of vaccine, preserved in glycerol, contains an accurately measured dose and is accompanied by a vial of diluent. The dilution is made by transferring (with a sterile syringe) the diluent to the vial containing the vaccine. The physician makes the dilution at the moment of making the injection.

ADVANTAGES:

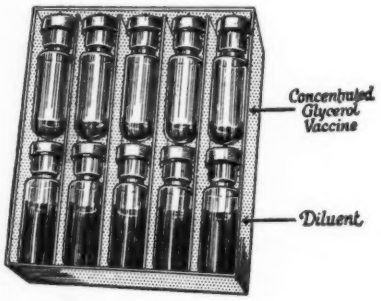
It will not deteriorate.

It is free from autolytic products.

In clinical trials it has not produced toxic reactions.

PACKAGES:

Immunizing package contains three doses. Treatment package contains five doses.



FULL PARTICULARS AND SAMPLES ON REQUEST

LEDERLE ANTITOXIN LABORATORIES
511 Fifth Avenue
New York